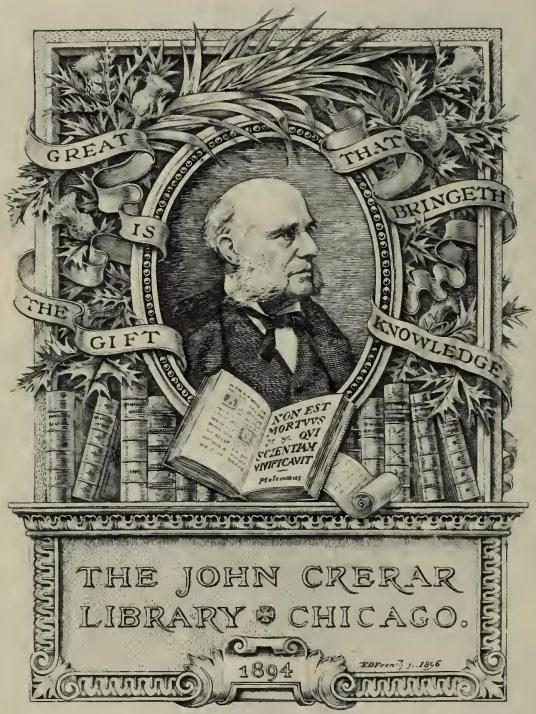
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THE COLLEGE BULLETIN

SERIES XVII, No. 1
FEBRUARY, 1918

Withdrawn

CATALOGUE
1917-1918

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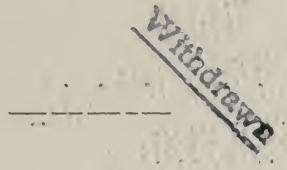
ALLEGHENY COLLEGE

FOUNDED IN 1815

ONE HUNDRED AND THIRD YEAR



CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1917-1918

MEADVILLE, PA.
1918

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED QUARTERLY
BY THE COLLEGE.

SERIES XVII, No. 1.
FEBRUARY, 1918.

Entered as second-class matter in the postoffice at Meadville, Pa.

CATALOGUE FOR THE ACADEMIC YEAR 1917-18

AND ANNOUNCEMENTS OF COURSES FOR 1918-19

CONTENTS.

	Page
Calendar	5
Board of Trustees	7
Faculty	9
Committees of the Faculty	12
Historical Sketch	13
Buildings and Grounds	14
Laboratories and Museum	20
Library and Reading Room	26
General Purpose	29
Requirements for Admission	30
Requirements for Graduation	46
Courses of Instruction by Departments	52
List of Electives	101
College Fees	106
Living Expenses	107
Hulings Hall	108
Aid to Students	110
Clubs	113
Prizes	115
Athletics	116
Degrees	117
Register of Students	118
Degrees Conferred	130
Phi Beta Kappa	132
Index	133

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CALENDAR.

1918.

April 2, Tuesday, 8:00 a. m.—Recitations Resumed.

3, Wednesday—Last Day for Presenting Senior Orations and Theses.

10, Wednesday—Choice of Senior Speakers.

24, Wednesday—Founders' Day.

25-May 4, Second Term Examinations.

May 4, Saturday, 12:00 m.—Moving-Up Day Exercises.
2:00 p. m.—Annual Meeting of Board of Trustees.
2:30 p. m.—Class Day Exercises.
8:00 p. m.—Commencement Concert.

5, Sunday, 10:45 a. m.—Baccalaureate Sermon by President William H. Crawford.
5:00 p. m.—Vesper Service.
7:45 p. m.—Annual Sermon before the Christian Associations.

6, Monday—Exercises in Honor of the Twenty-fifth Anniversary of the Inauguration of President Crawford.
8:00 p. m.—Phi Beta Kappa Address.

7, Tuesday, 9:30 a. m.—Commencement Exercises.
1:00 p. m.—Meeting of the Alumni Association. Annual Dinner.
6:00 p. m.—Fraternity Banquets.

SUMMER VACATION.

1918.

Oct. 1, Tuesday—First Term Begins.

Sept. 30-Oct. 1, Monday and Tuesday—Entrance Examinations.

Oct. 1, Tuesday—Registration of New Students.

2, Wednesday—Registration of Old Students.

3, Thursday, 8:00 a. m.—Recitations Begin.

Nov. 6, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

28, Thursday—Thanksgiving Day, a Holiday.

Dec. 20, Friday, 12:00 m.—Recitations Close.

CHRISTMAS RECESS.

Dec. 31, Tuesday, 8:00 a. m.—Recitations Resumed.

1919.

Jan. 8, Wednesday—Last Day for Presenting Senior Orations and Theses.

23-31—First Term Examinations.

Jan. 31, Friday, 4:00 p. m.—First Term Ends.

Feb. 4, Tuesday—Second Term Begins. Registration of Students.

5, Wednesday, 8:00 a. m.—Recitations Begin.

6, Thursday—Wakefield Oratorical Contest.

13, Thursday—Day of Prayer for Colleges.

22, Saturday—Washington's Birthday, a Holiday. The College Dinner.

Mar. 5, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

21, Friday—Philo-Franklin Oratorical Contest.

April 17, Thursday, 12:00 m.—Recitations Close.

SPRING RECESS.

April 22, Tuesday 8:00 a. m.—Recitations Resumed.

24, Thursday—Founders' Day.

30, Wednesday—Last Day for Presenting Senior Orations and Theses.

May 10, Saturday—Choice of Senior Speakers.

30, Friday—Memorial Day, a Holiday.

June 4, Wednesday—Commencement.

BOARD OF TRUSTEES.

Ex-Officio.

His Excellency MARTIN G. BRUMBAUGH,
Governor of the Commonwealth.

Hon. D. Newlin Fell,
Chief Justice of the Supreme Court.

Hon. Francis Shunk Brown,
Attorney General.

Harvey Henderson, LL.D.,	Pittsburgh
John J. Henderson, LL.D.,	Meadville
Rev. Joseph W. Miles, D.D.,	Meadville
Frank A. Arter,	Cleveland, O.
James P. Colter,	Meadville
James W. Kinnear,	Pittsburgh
Gorton B. Chase,	Greenville
Rev. Thomas H. Woodring, D.D.,	Pittsburgh
Rev. Andrew C. Ellis, D.D.,	Meadville
Rev. William H. Crawford, D.D., LL.D.,	Meadville
*John E. Rigg, M.D.,	Wilkinsburg
Edward Appleyard,	Jamestown, N.Y.
Wesley B. Best,	Meadville
John V. Ritts,	Butler
John S. Craig,	Pittsburgh
Austin Blakeslee,	DuBois
*Rev. Noble G. Miller, D.D.,	Blairsville
Nelson A. Rist,	Dawson
Arthur L. Bates,	Meadville
Simpson S. Ford,	Cleveland, O.
C. E. Welch,	Westfield, N. Y.
Bishop James M. Thoburn, D.D., LL. D.,	Meadville
Sarah B. Cochran,	Dawson
Rev. Robert M. Freshwater, D.D.,	New Philadelphia, O.
George Greer,	New Castle

*Deceased.

Byron A. Walker,	Erie
W. S. Horner,	Pittsburgh
Rev. J. M. Thoburn, D.D.,	Uniontown
Rev. C. W. Miner, D.D.,	DuBois
Ida M. Tarbell, LL.D.,	New York
Arthur W. Thompson,	Baltimore, Md.
Will N. Ridge,	New York
Edward B. Heckel, M. D.,	Pittsburgh
C. H. Bagley,	Corry
Paul Sturtevant, A. M.,	Pittsburgh
James Thomas,	Johnstown
John A. Gibson, A. M.,	Butler
Rev. J. C. McDonald, D.D.,	Erie
J. C. Bardall,	Reading, Mass.
F. A. Loveland,	Corry
C. Van Peters,	Oil City
C. H. Smith,	Sheffield
Edward W. Rynearson,	Pittsburgh
A. T. Morgan,	Pittsburgh
John W. Vickerman,	Bellevue
Wilbur P. Graff,	Blairsville

Officers of the Board.

Arthur W. Thompson,	President
John J. Henderson,	Vice-President
James P. Colter,	Secretary

Executive Committee.

William H. Crawford,	Chairman
James P. Colter,	Secretary

Frank A. Arter

Wesley B. Best — Arthur L. Bates

Treasurer of the College.

Joseph W. Miles

FACULTY.

WILLIAM H. CRAWFORD, D.D., LL.D.,*
PRESIDENT,
Professor of Ethics.
In France for service with the Young Men's Christian Association, December, 1917, to May, 1918.

WILLIAM A. ELLIOTT, A.M., L.H.D.,
Professor of Greek Language and Literature.

CLARENCE F. ROSS, A.M.,
Bradley Professor of Latin Language and Literature.
SECRETARY.

GEORGE A. MULFINGER, Ph.D.,
Professor of German Language and Literature.

CAMDEN M. COBERN, Ph.D., Litt.D.,
James M. Thoburn Professor of English Bible and Philosophy of Religion.
Acting President, December, 1917, to May, 1918.

CHARLES J. LING, Ph.D.,
Mary M. Newton Professor of Physics and Astronomy.

OSCAR P. AKERS, Ph.D.,
Francis Asbury Arter Professor of Mathematics and Surveying.

RICHARD EDWIN LEE, Sc.D.,
Professor of Chemistry.

GUY EVERETT SNAVELY, Ph.D.,*
Professor of Romance Languages and Literatures.

* Absent on leave.

ALICE HUNTINGTON SPALDING,
Instructor in Public Speaking.
DEAN OF WOMEN.

CHESTER A. DARLING, Ph.D.,
Professor of Biology and Geology.

CHARLES E. HAMMETT,
Professor of Physical Education and Director of Athletics.
REGISTRAR.

FREDERICK G. HENKE, Ph.D.,
Truman D. Collins Professor of Philosophy and Education.

JAMES MILLER LEAKE, Ph.D.,
Professor of History and Economics.

JOHN RICHIE SCHULTZ, Ph.D.,
Professor of English Language and Literature.

STANLEY S. SWARTLEY, Ph.D.,
Assistant Professor of English.

HOWARD PENNINGTON STEMPLE, A.M.,
Assistant Professor of Economics and Political Science.

ROBERT CALVIN WARD, A.M.,
Assistant Professor of Romance Languages and Literatures.
(In charge of the department.)

EDITH ROWLEY, A.M.,
Librarian.

KARL A. MILLER, B.S.,
Instructor in Mathematics and Surveying.

ROBERT O. CONANT, A.B.,
Instructor in Romance Languages.

GEORGE JAMES HUCKER, A.M.,
Instructor in Biology and Geology.

FLORENCE M. STEWARD, A.M.,
Instructor in English.

CARL A. GILBERT, M.S.,
Instructor in Chemistry.

MILDRED M. HAZEN, A.B.,
Instructor in Romance Languages.

HELEN R. ADAMS, A.B.,
Graduate Assistant in Latin.

ETHEL S. ROACH, B.S.,
Graduate Assistant in Biology.

RALPH S. DEWEY, B.S.,
Graduate Assistant in Chemistry.

PAUL E. HILL, B.S.,
Graduate Assistant in Chemistry.

COMMITTEES OF THE FACULTY.

Registration.

THE PRESIDENT — THE REGISTRAR
PROFESSOR ROSS — PROFESSOR LEE
PROFESSOR COBERN

Courses of Study.

PROFESSOR ELLIOTT — PROFESSOR MULFINGER
PROFESSOR LING — PROFESSOR HENKE
PROFESSOR LEAKE

Discipline.

THE PRESIDENT — PROFESSOR ELLIOTT
PROFESSOR LEE

College Organizations.

PROFESSOR AKERS — PROFESSOR ROSS
PROFESSOR STEMPLE

Library.

PROFESSOR MULFINGER — PROFESSOR ELLIOTT
PROFESSOR SCHULTZ

Graduate Instruction.

PROFESSOR DARLING — PROFESSOR LEAKE

Athletics and Gymnasium.

PROFESSOR LEE — PROFESSOR HAMMETT
PROFESSOR WARD

Accredited Preparatory Schools.

PROFESSOR ROSS — PROFESSOR COBERN
PROFESSOR DARLING

College Book Store.

PROFESSOR LEE

Catalogue.

PROFESSOR HAMMETT — PROFESSOR AKERS
PROFESSOR SWARTLEY

Men's Dormitories.

PROFESSOR DARLING — PROFESSOR SCHULTZ

DESCRIPTION OF THE COLLEGE.

HISTORICAL SKETCH.

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was the Rev. Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 the Rev. Martin Ruter, of the Pittsburgh Conference of the Methodist Episcopal Church, was elected to the presidency. The institution, while pronouncedly Christian, is conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage, on account of his religious views.

LOCATION.

Allegheny College is located in Meadville, Pennsylvania, on the main lines of the Erie and the Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of about fifteen thousand. It is an old, well-established town, with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town it has few of the disadvantages of city life. It has most

of the advantages of a city, such as paved streets, an effective sewerage system, an abundant supply of wholesome water from driven wells, arc and incandescent electric lights, natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of wild and rugged ravines of exceeding beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of botany and geology.

BUILDINGS AND GROUNDS.

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred fifty feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with cement walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the college.

Bentley Hall bears the name of the Rev. William Bentley, D.D., of Salem, Massachusetts, who gave

his valuable library to the college. The corner stone was laid in 1820. It consists of a central three-story building with tower, and two wings with massive pillars. The building contains the administration offices of the college and recitation and lecture rooms. The third floor is devoted to the halls of the literary societies.

During the summer of 1905 extensive improvements were made in the interior of the building. New hard wood floors and oak wainscoting were put in, and new furniture throughout has been provided. These changes, made at a cost of about seven thousand dollars, have rendered the building very attractive and entirely modern, without lessening its charm as a fine example of colonial architecture.

Ruter Hall, which bears the name of the Rev. Martin Ruter, D.D., the second president of the college, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the college. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the department of Mathematics and Surveying. The third floor, occupied by the department of Philosophy and Education, contains a lecture room, two laboratories, two offices, and a store room.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women and accommodates about ninety. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has

recently been almost entirely refurnished. The rear wing of the building contains on the fourth floor five large society halls; the first and second floors are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is finished throughout in Georgia pine. It is provided with a full equipment of modern apparatus. In the basement are dressing rooms and baths.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the department of Physics. It contains an amphitheater lecture-room, seating one hundred students, physical laboratories, and a basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, erected in 1896, adjoins the athletic field. It is in the early Italian style of round arched architecture, and is constructed of native stone and brick. The building is T-shaped in plan, the front portion being two stories high, exclusive of the tower. The first floor contains the director's room, locker rooms, and baths. On the second floor there are an assembly room and a committee room, both for general use. The gymnasium floor, which occupies the rear extension, has a clear space of forty-five by eighty feet unobstructed by pillars, the roof being supported by steel trusses. The building is equipped with the appointments of a first-class modern gymnasium.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Ba-

tavia, Illinois, in memory of her husband, Captain D. C. Newton, once a student in the college. It is a rock-faced stone building of fine architectural appearance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburgh, and was built by the late Julius Neef, of Philadelphia. It has three manuals and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Library Building, the gift of an anonymous donor, was completed in 1902. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and the department

seminar rooms. The interior appointments of the library are entirely in accord with the artistic character of the building.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., provision has been made for a college commons for young men. The building is constructed of brick, with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guests' suite. The building not only provides first class boarding accommodations, and at reasonable rates, but also constitutes a rallying center for the young men of the college. Apart from the dining room and the provisions for a dormitory, there are rooms for the Young Men's Christian Association, which are admirably adapted to their purpose. In addition to the spacious room to be used as assembly, reading, and social room, there are an office for the secretary, a committee room, and a cloak room. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

Alden Hall. Since the burning of this building in 1915 it has been rebuilt and greatly enlarged into a modern two story structure for the department of Biology and Geology. Constructed of gray vitrified brick and terra cotta and roofed with red Spanish tile, it forms an imposing building sixty feet wide by one hundred twenty feet long, with the main entrance on

George Street. The spacious halls lined with cases for the display of biological specimens, the rough sand finish of the walls, and the stained-oak wood-work and furnishings produce a most pleasing interior.

The building is divided on the first floor into a large lecture room in the east end, a library, professor's office, two private laboratories, and four advanced laboratories; on the second floor into four large laboratories, two store rooms, an office, and a vivarium. The basement contains six rooms which are used by the department for aquaria, work shop, store rooms, etc. The building is exceptionally well-lighted and is well-equipped with tables, lockers, apparatus, etc. Electric lights, water, and gas are supplied to all the rooms.

Carnegie Hall of Chemistry. This building is the latest addition to the group of college buildings and is devoted entirely to the use of the department of Chemistry. The erection of the building was made possible by a gift of $40,000 by Mr. Andrew Carnegie. This contribution was made with the understanding, however, that the trustees of the college add $10,000 to this sum for the building and, furthermore, that an additional $20,000 be raised for the purpose of providing a definite income for the maintenance of the building. The trustees not only met the terms of the gift but immediately appropriated a generous sum to be used for the purchase of adequate equipment of the laboratories.

With the completion of this building late in the year 1915, the college came into possession of a $70,000 plant for chemistry, not including the equipment, which will amount to approximately $20,000.

The building is constructed of buff tapestry brick

with artificial stone trimmings, in the Italian villa style. The roof is of red Spanish tile. The interior structure is entirely of pressed steel. Owing to the fact that it was deemed advisable for hygienic purposes to substitute heavy four-inch wooden floors for cement, it is necessary to describe the building as "slow-burning construction."

There are twenty-four rooms in the building. All these rooms have been equipped as offices for members of the instructing staff, or as laboratories for the general courses in chemistry and for research work. The building is supplied with electricity, both A. C. and D. C., high pressure steam for operating steam-baths, and with that which appears to be a satisfactory system for ventilating hoods and laboratories.

LABORATORIES AND MUSEUM.

The Physical Laboratory. The department of Physics occupies Wilcox Hall of Science. It comprises a large, well-lighted lecture-room; a general laboratory; special laboratories for heat, light, and electricity; two dark rooms; the professor's office; and department library and store room. The lecture-room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratories. The department of Chemistry occupies the building known as Carnegie Hall of Chemistry. It consists of twenty-four rooms. On the first floor are located the offices of the instructing staff; reading room containing department library;

laboratories for electro-chemistry, quantitative analysis, metallurgical chemistry, physical chemistry, water analysis, gas and fuel analysis; and the hygienic laboratory. The balance room, which is provided with suitable piers, is also located on this floor. On the top floor are found separate laboratories for general chemistry, qualitative analysis, spectrum analysis, and organic chemistry; stock room, preparation room, combustion room, and the large lecture room. In the basement, which has been finished as the two upper floors with the exception of the cement floor, are located the laboratory for agricultural chemistry, small lecture room, stock rooms, and work-shops. The desks in all the laboratories are provided with outlets for compressed air, electricity, A. C. and D. C., as well as gas, water and vacuum pumps. The steam baths, which are supplied with high pressure steam, and the hydrogen sulphide outlets are located in glazed hoods, which are ventilated by forced draughts.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope, the objective of which was a gift of Mr. J. C. McDowell, of Pittsburgh, and was made by Brashear, of Allegheny, Pa. The graduated silver circles for this telescope were given by Mrs. Elizabeth Whiting, of Meadville. A seven and one-half inch instrument, made by Alvin Clark and Son, is also included in the equipment. Other equipment includes a transit, a chronometer, a sextant, and a sidereal clock. The clock is the gift of the children of Milton B. Goff, LL. D., in memory of their father, an alumnus and former professor of mathematics in the college. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by George N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute field work in astronomy which is of value to engineers. A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock complete the new equipment, which will enable the department to offer to the student work that will be comparable with other observatories having a glass of like magnitude.

Surveying Apparatus. In Mathematics and Surveying all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in these subjects.

The Biological Laboratories, formerly located in restricted quarters on the third floor of Ruter Hall, now occupy, together with Geology, the entire building of Alden Hall, which has been rebuilt and greatly enlarged. This change has greatly increased the number of laboratories and has materially added to the efficiency of the department.

The laboratory for general biology is on the second floor; it is well lighted by north windows and is well equipped with modern laboratory tables, individual lockers, compound microscopes, and other apparatus necessary to accommodate the large number of stu-

dents who elect this work. Adjoining this general laboratory is a laboratory for advanced zoology, in which hundreds of specimens illustrating the various orders of animals are displayed. On the south side on this floor is the vivarium, in which are still-water aquaria and insect cages; in the northwest corner is a large laboratory for advanced botany and for economic biology; this laboratory contains the herbaria of the local flora, including fungi, mosses, ferns, and seed plants; also hundreds of microscopic slides for use in these courses.

On the first floor is the large lecture hall supplied with student chairs, a balopticon with several hundred slides, and numerous wall charts; adjoining this room are the professor's private laboratory and a preparator's room in which demonstration material is prepared and stored. The bacteriological laboratory on this floor is equipped with lockers, two steam-pressure autoclaves, a multi-compartment, electrically heated incubator, hot-air sterilizers, microscopes, etc. Adjoining this room is the laboratory for histology and embryology supplied with microtomes, multi-compartment paraffin oven, incubators, compound microscopes with oil-immersion lenses, and other necessary apparatus. The laboratory for plant physiology is well equipped with apparatus for studying soils, for seed testing, etc. Opening from this room are a conservatory for growing plants and also a dark room for photographic and experimental purposes. A library with the departmental books and magazines, an advanced bacteriological laboratory, professor's office, and a store room complete the rooms of the first floor.

In the halls are displayed numerous cases of birds, insects, skeletons, dissected and injected specimens,

models, and illustrative and museum material of various kinds. The laboratories throughout are equipped with microscopes and the necessary apparatus to carry on the work of the various courses offered by the department. The tables are supplied with electric desk lamps for use on cloudy days.

In the basement is a room with running-water aquaria for fish and amphibians, and several cages for mice used for demonstration work in heredity; a work shop and store rooms are also in the basement. In the rear of the building is a plot of ground which is to be developed into a botanical garden.

The Geological Laboratory is on the second floor of Alden Hall. It contains laboratory tables equipped for blowpipe work and provided with lock drawers for each student. The room is large and well lighted, and is supplied with electricity, gas, running water, and cases for maps, minerals, rocks, and reagents. Other equipment for geological and mineralogical work consists of several hundred topographic maps and geologic folios, several thousand minerals and rocks for both demonstration and working collections, crystal models, polarizing microscope, rock slides, a lantern with numerous slides, and a collection of fossils arranged in order of the geologic periods. This collection has been augmented materially by the gift of fossils from Montana by Mr. Walter M. Small and by the gift and exchange of fossils by others.

A large room in the basement is used for the preparation and storage of minerals, rocks, and fossils.

The geological library consisting of several hundred volumes of government, state, and other publications

is in the department library on the first floor of Alden Hall.

The Psychological Laboratory occupies four rooms on the third floor of Ruter Hall, and several additional rooms are at the disposal of students for experimental work. It is equipped with tables and the apparatus required for elementary experiments. New apparatus will be added as occasion arises.

The Natural History Collections are placed in the museum on the first floor of Ruter Hall and in Alden Hall. The geological and mineralogical collections are especially noteworthy and contain many valuable specimens, incuding several type forms. The more than eight thousand mineral specimens form an excellent collection and serve as a splendid basis for the course in mineralogy. The geological collections include the Smithsonian set of rocks and rock-forming minerals, besides numerous other specimens; while the paleontological collection includes the Ward casts and several original fossil forms. A collection of fossils, both local and from the glacial drift, has been presented to the college by Mr. William Millward.

The biological collections are also important. The herbarium has been greatly increased so that it includes most of the local flora, which is rich and varied and furnishes an abundance of material for the courses in Botany. The zoological collection consists of several thousand specimens. It includes an excellent collection of shells, over two hundred mounted birds, several cases of economic insects, mounted skeletons, and numerous jars of prepared and injected specimens illustrating the various orders of animals.

The museum is open to the public every Saturday

from ten-thirty until noon while the college is in session. At other times visitors are admitted on application to the curator.

THE LIBRARY.

The Library contains 44,000 printed productions, of which 32,000 are bound volumes. The remainder is made up of unbound periodicals and classified pamphlets. The additions by gift and purchase during 1915-16 were more than 1,200 volumes. A large number of reference books of a general and technical nature have been recently added to the good collection in the reference room, where 2,000 volumes of books "reserved" for use in the various departments are shelved with the dictionaries, encyclopedias, and general reference works. A dictionary card catalogue and periodical and government document indexes make the general resources and the latest periodical information easily available. Especial attention has been given to completing the bound sets of the most valuable periodicals. The departments of Chemistry, Physics, Biology, Geology, and Astronomy have their several department libraries in the buildings where the work is done, and additions are made to these collections each year. The Library possesses many rare old books from the Winthrop, Thomas, and Bentley foundations and a number of valuable old Bibles.

The following moneys have been given to create funds for the support of the Library:

Andrew Carnegie Fund.....$25,000

The income of this fund is to be used for general maintenance.

Lucy Prindle Foote Fund.....$ 5,000

A gift of Mrs. Lucy P. Foote, of Batavia, Ill., the income to be used for the purchase of books.

William Davis Memorial Fund.....$ 5,000

A gift of Mr. Henry L. Davis, of Philadelphia, Pa., in memory of his father, Mr. William Davis, the income to be used for the purchase of books.

Rev. Lynn Olin Mead Fund.....$ 500

A gift of Mrs. Martha S. Mead in memory of her late husband, the Rev. Lynn Olin Mead, the income to be used for the purchase of books.

The Library is housed in a modern building with large reading and study rooms, fitted with electric lights and steam heat. The administration aims to make the Library not only an auxiliary to the class instruction but also the center of the intellectual life of the college. The classical and literary clubs have headquarters in the building, and rooms are set aside for advanced classes studying along special lines; the rules are such as will allow the widest use of the books with only such necessary restrictions as will secure the greatest good to the greatest number. The reading room regularly receives over one hundred periodicals, including technical department journals and dailies from the great cities and the best weeklies, both religious and secular. In addition to a very comprehensive list of the best home and foreign periodicals, the Campus and the Literary Monthly maintain an exchange table of college publications.

The Library is a government depository and also receives the state publications. Each department has an annual appropriation for the purchase of the latest technical and reference works. The access to such a wide range of books and periodicals, the training in the use of catalogues, bibliographies, reference works, and the wide range of technical and general periodical literature available are of great advantage to the student. A book service is maintained with the Carnegie Library of Pittsburgh by which almost any book not available here may be secured quickly and at slight expense to the student. Exchange relations are also maintained with several other libraries. The Meadville Theological School extends library privileges to this college, and the students have access to the Meadville Public Library, containing over 12,000 catalogued volumes.

The Library is open during the college year from 8 a. m. to 5:30 p. m. and three evenings a week.

GENERAL PURPOSE.

This institution is a college, not a university. It does not undertake to fit the student to enter a profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curricula are based. Under the various groups about three-fourths of the subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered, enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for a profession.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. A college training does not teach a man how to do business successfully, but it does prepare him to do business rapidly, and to attain large success, if he has the requisite talent.

REQUIREMENTS FOR ADMISSION.

The requirements for admission are stated in terms of units. *A unit is defined as a course of study that has been pursued for a school year of at least thirty-six weeks, with four or five periods per week of not less than forty minutes each. However, not less than one hundred twenty periods of sixty minutes each or their equivalent shall be counted a unit. But it is understood that in the major subjects for entrance five periods a week will be required.*

No science subject may be credited for entrance unless accompanied by satisfactory evidence of laboratory or field work. Exceptions may be made in the case of physiology.

Subjects accepted for entrance:

	Minimum.	Maximum.
English	3	4
Mathematics	2½	4
Foreign Language	4	7
Latin		
Greek		
French		
German		

Not less than two units in any language will be counted, unless continued further in college.

History	1	4
Medieval and Modern	..	1
Ancient	..	1

English	½	1
United States	½	1
Civics	..	½
Drawing		
Free Hand	..	½
Mechanical	..	½
Science	1	4
Biology	½	1½
Chemistry	..	1
Physics	..	1
Physiography	..	½
Geology	..	½

Not more than one unit of Biology may consist of General Zoology or Botany. Physiology may count as much as one-half unit.

From the preceding list of units 15 must be offered for entrance to the freshman class. Of these, 11½ units are absolutely required and 3½ may be elected from any of the units in the foregoing list.

The 11½ required units are as follows:

English	3
*Mathematics	2½
Science	1
History	1
Foreign Language	4

For admission to A. B. Groups I and II, these 4 units will be in Latin; to Groups III, IV, and V, two

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* Students may be admitted with 2 units of Mathematics, provided they offer 15 units all told; but they will be required to complete in college a half year of Mathematics in addition to the regular Science requirement.

units must be in Latin; to B. S. Groups I-IV, there is no restriction concerning Latin.

The various groups are described on pp. 46-51.

For conditional admission in the aforementioned Latin prerequisite see page 84.

DESCRIPTION OF UNIT REQUIREMENTS.

ENGLISH.—The following is a definition of units one, two, three, and four, respectively, that may be offered as entrance credits in English:

(Unit one) Composition and Rhetoric.

(Units two and three) Selections from the list of required readings below.

(Unit four) A history of English or American literature, with additional readings from the English classics.

The study of English in school has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

Grammar and Composition. The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, easy exposition, and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English

in his recitations and various exercises, whether oral or written.

Literature. The second object is sought by means of two lists of books headed respectively Reading and Study, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

(A.) Reading. The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group 1.

GROUP I. Classics in Translation. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther. The Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII. The Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI. The Aeneid. The Odyssey, Iliad and Aeneid should be read in English translations of recognized literary excellence. For any selection from this group a selection from any other group may be substituted.

GROUP II. Shakespeare. Midsummer Night's Dream, Merchant of Venice, As You Like It, Twelfth Night, The Tempest, Romeo and Juliet, King John, Richard II, Richard III, Henry V, Coriolanus, *Julius Cæsar, *Macbeth, *Hamlet.

* If not chosen for study under B.

GROUP III. Prose Fiction. Malory's Morte d'Arthur (about 100 pages); Bunyan's Pilgrim's Progress, Part I; Swift's Gulliver's Travels (voyages to Lilliput and to Brobingnag); Defoe's Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; Frances Burney's Evelina; Scott's novels, any one; Jane Austen's novels, any one; Marie Edgeworth's Castle Rackrent, or The Absentee; Dicken's novels, any one; Thackeray's novels, any one; George Eliot's novels, any one; Mrs. Gaskell's Cranford; Kingsley's Westward Ho! or Hereward the Wake; Reade's The Cloister and the Hearth; Blackmore's Lorna Doone; Hughes' Tom Brown's Schooldays; Stevenson's Treasure Island, or Kidnapped, or Master of Ballantrae; Cooper's novels, any one; Poe, selected tales; Hawthorne's The House of the Seven Gables, or Twice Told Tales, or Mosses from an Old Manse; a collection of short stories by various standard writers.

GROUP IV. Essays, Biography, etc. Addison and Steele's The Sir Roger de Coverley Papers, or selections from the Tatler and Spectator (about 200 pages); Boswell, selections from the Life of Johnson (about 200 pages); Franklin's Autobiography; Irving, selections from the Sketch Book (about 200 pages), or Life of Goldsmith; Southey's Life of Nelson; Lamb, selections from the Essays of Elia (about 100 pages); Lockhart, selections from the Life of Scott (about 200 pages); Thackeray's Lectures on Swift, Addison, and Steele in the English Humorists; Macaulay, any one of the following essays: Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederick the Great, Madame d'Arblay; Trevelyan, selections from the Life of Macaulay (about 200 pages); Ruskin's Sesame and Lilies, or selections (about 150 pages); Dana's Two Years Before the Mast; Lincoln, selections, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman's The Oregon Trail; Thoreau's Walden; Lowell's Selected Essays (about 150 pages); Holmes' The Autocrat of the Breakfast Table; Stevenson's An Inland Voyage and Travels with a Donkey; Huxley's Autobiography and selections from Lay Sermons, including the addresses on improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; a collection of essays by Bacon,

Lamb, DeQuincey, Hazlitt, Emerson, and later writers; a collection of letters by various standard writers.

GROUP V. Poetry. Palgrave's Golden Treasury (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley (if not chosen for study under B); Goldsmith's The Traveler, and the Deserted Village; Pope's The Rape of the Lock; a collection of English and Scottish ballads, as, for example, some Robin Hood Ballads, The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens, and a selection from later ballads; Coleridge's The Ancient Mariner, Christabel, and Kubla Khan; Byron's Childe Harold, Canto III or IV, and The Prisoner of Chillon; Scott's The Lady of the Lake, or Marmion; Macaulay's The Lays of Ancient Rome, The Battle of Naseby, The Armada, Ivry; Tennyson's The Princess, or Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa, Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, and The Forsaken Merman; selection from American poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

(B.) Study. This part of the requirements is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I. Drama. Shakespeare's Julius Cæsar, Macbeth, Hamlet.

GROUP II. Poetry. Milton's L'Allegro, Il Penseroso, and either Comus or Lycidas; Tennyson's The Coming of Arthur, The Holy Grail, and The Passing of Arthur; the selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's Golden Treasury (First Series).

GROUP III. Oratory. Burke's Speech on Conciliation with America; Macaulay's Speech on Copyright and Lincoln's Speech at Cooper Union; Washington's Farewell Address and Webster's First Bunker Hill Oration.

GROUP IV. Essays. Carlyle's Essay on Burns, with a selection from Burns' Poems; Macaulay's Life of Johnson; Emerson's Essay on Manners.

Examination. However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examination will be divided into two parts, one of which will be on grammar and composition, and the other on literature.

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words per hour.

The examination in literature will include:

(A.) General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under (A.) Reading, above. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but this list will not be made the basis of detailed questions.

(B.) A test on the books prescribed for study, which will consist of questions upon their content, form, and structure,

and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

MATHEMATICS.—Elementary Algebra. (One unit or one and one-half units.) The work in this subject should include the following: fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

A maximum of one and one-half units may be given when the time spent in preparing to meet this requirement be at least a year and a half. It is suggested that the work of the last half-year should be done late in the preparatory school course to insure a distinct and ready articulation with the required work of the freshman year in college. It is desirable that the student should come to his college work with well formed habits of neatness and accuracy, and that he have a ready knowledge of so much mathematics as he may have studied.

Plane Geometry. (One unit.) The general properties of rectilinear figures, similar polygons, and areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

Solid Geometry. (One-half unit.) The relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

Advanced Algebra. (One-half unit.) A somewhat more extended treatment in review of the important topics of elementary algebra; such as fractional and negative exponents, radicals, factoring, the theory of quadratic equations (including maxima and minima, simultaneous quadratic equations, ratio, proportion, the progressions, and the binomial theorem for positive integral exponents). In addition to these, the following topics should be included: permutations and com-

binations, undetermined coefficients, partial fractions, logarithms, theory of equations, including Horner's method, and the solution of numerical equations of higher degree.

Plane Trigonometry. (One-half unit.) The definitions and relations of the six trigonometric functions as ratios, proofs of formulas, especially those for the sine, cosine and tangent of the sum or difference of two angles, the relation between functions of an angle and those of double angles and half angles, inverse functions, and the solution of right and oblique triangles with applications.

LATIN.—The following requirements, as proposed by the Commission on College Entrance Requirements in Latin, have been adopted by the college:

I. AMOUNT AND RANGE OF THE READING REQUIRED.

1. The Latin reading required of candidates for admission to college, without regard to the prescription of particular authors and works, shall not be less in amount than Cæsar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, Aeneid, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and De Senectute) and Sallust (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Aeneid) and Ovid (Metamorphoses, Fasti, and Tristia).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS.

1. **Translation at Sight.** Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. **Prescribed Readings.** Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias; and Vergil, Aeneid, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and

prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. **Grammar and Composition.** The examination in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and ordinary syntax and vocabulary of the prose authors read in the school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

The credits given are as follows: elementary Latin book, such as Collar and Daniell or Bennett, including the reading of at least fifteen pages of easy connected prose, such as Viri Romæ, one unit; Cæsar with composition, one unit; Cicero with composition, one unit; Vergil, one unit.

GREEK.—(One unit.) First Greek book and at least six chapters of Book I of Xenophon's Anabasis.

(One unit.) Xenophon's Anabasis through Book IV. Xenophon's Anabasis, Books, V, VI, and VII, of Xenophon's Hellenika, Books I and II, or twelve hundred lines of Homer. Prose composition based on the texts read.

(One unit.) Homer's Iliad or Odyssey, about three thousand lines. Thorough knowledge of poetic forms and prosody. About thirty pages of Attic prose with composition based thereon.

Throughout the work in Greek, emphasis should be laid on accurate knowledge of forms and the ordinary rules of syntax, on the ability to read Greek aloud correctly and expressively, and on the ability to write rapidly and correctly in Greek simple English sentences based on the texts read.

Students expecting to enter Greek I in college should offer at least two units of entrance Greek. Students without Greek for entrance may begin the subject in Greek A and in one year be prepared to enter Greek I.

GERMAN.—(One unit.) The first year's work should comprise: careful drill in pronunciation, dictation, memorizing of easy colloquial sentences, drill in the rudiments of grammar, i. e., the inflection of nouns, adjectives, pronouns, weak verbs, and the more usual strong verbs; the use of prepositions; the simplest rules of syntax and word order; simple exercises in conversation; and the reading of from seventy to one hundred pages of a graduated text from a reader or from editions of easy texts.

(One unit.) The second year's work should comprise: the reading of one hundred fifty to two hundred pages of literature in the form of easy stories and plays; a further study of syntax; conversation based on the text read; practice in the translation into German of easy variations upon the matter read, and also in off-hand reproduction, sometimes orally and sometimes in writing, of the substance of selected passages.

(One unit.) The work of the third year includes, in addition to the courses above, the reading of about four hundred pages of moderately difficult prose or poetry, with constant practice in giving, sometimes orally, sometimes in writing, abstracts, paraphrases, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of the article, and the cases, the uses of the subjunctive and the infinitive, complex sentence structure, and the uses of modal auxiliaries and participial constructions.

(One unit.) The fourth year of the study should be devoted to such works as Goethe's Iphigenie, Tasso, Hermann und Dorothea, Schiller's Wallenstein, standard prose of the grade represented by Freytag or Keller, some consideration of the chief lyric poets, prose composition, and some practice in theme writing.

FRENCH.—(One unit.) First year French should comprise the following: (1) careful drill in pronunciation, which should be re-enforced by dictation and conversation in the class room; (2) study of grammar, including the more unusual irregular verbs, such as the material found in Part I of Fraser and Squair's French Grammar; (3) regular practice in putting simple idiomatic sentences into French; (4) reading of about

two hundred duodecimo pages of easy standard French, such as is to be found in the more popular French Readers, Malot's Sans Famille, Bruno's Tour de la France, the stories of Erckmann-Chatrian, etc.

(One unit.) Second year French should include: (1) continued work in dictation; (2) memorizing of short poems; (3) further practice of turning English into idiomatic French; (4) more detailed study of grammar, such as is contained in Fraser and Squair, Part II; (5) reading of some three hundred pages of standard French of gradually increasing difficulty, such as the stories and plays of About, Daudet, Labiche, Mérimée, Sand, Scribe, etc.

(One unit.) Third year French should comprise the reading of some five hundred pages of more difficult French, including some masterpieces of French drama. Moreover, the student should be able to reproduce and paraphrase into idiomatic French parts of the works read. Texts should be selected from the works of Balzac, Beaumarchais, Corneille, Hugo, Marivaux, Molière, Musset, Racine, Vigny, Voltaire, etc.

ANCIENT HISTORY.—(One unit.) To the fall of the Roman Empire. Texts—Botsford, West, Myers.

MEDIEVAL AND MODERN.—(One unit.) Texts—Myers, Robinson.

ENGLISH HISTORY.—(One-half or one unit.) Texts—Cheyney, Larned.

AMERICAN HISTORY.—(One-half or one unit.) Texts—Channing, Fiske, McMaster.

CIVICS.—(One-half unit.) Texts—Fiske, Hart.

FREE HAND DRAWING.—(One-half unit.) The candidate must possess the ability to sketch, both in outline and with shading, simple objects, such as a house, a small piece of machinery, a simple landscape, a group of geometrical figures, or an architectural ornament.

Certificates covering the above work, together with at least twenty specimen drawings, will be accepted.

MECHANICAL DRAWING.—(One-half unit.) The candidate must be able to make projections in plan and elevation of geometrical figures, and to prepare working drawings of simple architectural and mechanical subjects.

Certificates covering this work, together with at least twenty plates, illustrating the elements of descriptive geometry or of simple machine parts, will be accepted.

BIOLOGY.—Courses in zoology, botany, physiology and hygiene will also be accepted under this head provided they meet the requirements here given. Satisfactory outlines of courses are given in the syllabus published by the New York State Educational Department.

a. (One unit.) A course in general biology extending throughout a year which shows the fundamental relationship between the animal and plant kingdoms and shows man's place in nature. A part of this course may deal with human physiology. The course must be accompanied with laboratory work and the student, if required to do so, must be prepared to submit a laboratory note-book properly certified.

b. (One-half to one unit.) Courses in general zoology or general botany of at least one-half year in length. It is recommended that these be courses which deal with habits and ecological relationships as well as structure. Forms of animals or plants of local or of economic importance should be used as type forms as far as possible. Courses in botany dealing solely with the flowering plants or courses in zoology dealing solely with birds or insects will not be accepted. Laboratory work will be required in all cases and the student must be prepared to submit a properly certified note-book.

c. (One-half unit.) Physiology and Hygiene. This must be a one-half year course, and it is recommended that laboratory work be done with the course.

GEOLOGY.—(One-half unit.) The materials of the earth, the work of the atmosphere, ground-water, running water, snow and ice, the oceans and lakes, vulcanism and diastrophism; rock structures; the history of the geologic periods from the Archæozoic to the present. Laboratory and field work are required, for which a note-book is to be submitted.

PHYSIOGRAPHY.—(One-half unit.) The origin and significance of the great relief features of the earth, and the topographic forms of the land; the earth as a planet; the atmosphere; the climate; weather predictions. Appropriate field and laboratory work must accompany the study of the text. Suitable text books are Salisbury's Briefer Course in Physiography, or Tarr's Physical Geography.

CHEMISTRY.—(One unit.) The candidate's preparation in chemistry should include: (a) The study of at least one standard text-book on general chemistry, to the end that the pupil may obtain a comprehensive view of the more important facts of elementary chemistry. (b) Individual laboratory note-books, certified by the candidate's instructor, must be presented.

PHYSICS.—(One unit.) The amount and extent of the class work required for entrance in physics may be indicated by such texts as Millikan and Gale's First Course, Hoadley's Elements, or Carhart & Chute's High School Physics. In laboratory the work should include at least thirty quantitative experiments supplementing the class work, performed by the student, and recorded in a carefully prepared note-book.

ADMISSION WITH CONDITIONS.

Students who have not fully completed the subjects specified for the course they wish to enter may be admitted to the freshman class conditionally, but not if the sum of their deficiencies exceeds one-fourth of a year's work nor if in the judgment of the Registration Committee they are not fitted to do college work to advantage. They will be admitted to such college classes as they may be qualified to enter. Under certain fixed restrictions, credit may be obtained on entrance for work done in college subjects, and such advanced credit may be offset against deficiencies in preparatory work until the latter can be removed.

SPECIAL STUDENTS.

Persons desiring to pursue studies in the college are, as a rule, required to be prepared to enter the freshman class as candidates for one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

ENTRANCE EXAMINATIONS.

Examinations for admission are held on Monday and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the first term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in all subjects.

ADMISSION BY CERTIFICATE.

In place of examinations in studies required for admission to college, certificates will be accepted from approved first class high schools having a regular four years' course, in case of students regularly graduating in such a course. Certificates will also be accepted in case of graduates of a three years' high school course, provided they pass entrance examinations in not less than three units additional to their certificate.

Certificates will not be accepted in the cases of students who are not graduates of the school from which the certificates are presented. *Students entering by certificate*

are considered as on trial until the completion of the mid-year examination, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.

In all cases an examination in English is required, adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to have their schools placed on the approved list are invited to address the Registrar of the college.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should bring with him all laboratory note-books, exercise books, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismissal will be required from those who have been matriculated at other institutions.

Requirements for Graduation to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

	First Term.	Second Term.
English I	3	3
English Bible I	2	2
*Mathematics or Science	4	4
Physical Training	1	1

One course from each of two of the following departments: Latin, Greek, French, German, Political Science.

These two courses will count as part of the student's Group Electives as detailed on pp. 47, 48.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For Group I he should choose Latin and Greek.

For Group II he should choose Latin or Greek, and German or French.

For Group III he should choose French and German.

For Group IV he may choose any two of the subjects.

For Group V he should choose a language course and one in the history department.

Not less than sixteen and not more than seventeen hours are to be taken weekly.

*Candidates for the degree of Bachelor of Arts are required to elect fourteen term hours from the following courses: Astronomy I, Biology I, Chemistry I, Geology I, Mathematics I, Physics I, so that two departments are represented.

SOPHOMORE YEAR.

	First Term.	Second Term.
Mathematics or Science	4 or 3	4 or 3
History or Political Science	3	3
Physical Training	1	1

Group Electives [See pp. 47, 48] to make not less than sixteen and not more than eighteen hours weekly.

JUNIOR YEAR.

	First Term.	Second Term.
Philosophy II, V	3	3

This subject may be taken in the sophomore year if the student is to do his major work in philosophy.

Physical Training	1	1

Group Electives and Free Electives, to make not less than fifteen and not more than seventeen hours weekly.

SENIOR YEAR.

A thesis in the first term and an oration in the second term. See page 100.

	First Term.	Second Term.
Physical Training	1	1

Group Electives and Free Electives chosen from the list on pages 101-105 to make a total for the course of not less than one hundred twenty-eight term hours.

GROUP ELECTIVES.

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of A. B. Groups I, II, III, IV, V, in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 112.

A. B. Group I.

1. In one department, Greek or Latin.....20 hrs.
2. In a second department, Latin or Greek.....14 hrs.

3. In a third department, English, History, Philosophy, French, or German.....14 hrs.
4. In a fourth department, English, History, Philosophy, French, German, or Spanish..... 6 hrs.

A. B. Group II.

1. In one department, Latin or Greek.....20 hrs.
2. In a second department, French or German.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, Greek, French, or German.....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, French, German, or Spanish ..... 6 hrs.

A. B. Group III.

1. In one department, French or German.....20 hrs.
2. In a second department, German or French.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, or Greek.....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, or Spanish..... 6 hrs.

Students who present for admission less than two units in a modern language must, if this Group is chosen, take not less than eight hours additional to the above requirements, in the language chosen for the major subject.

A. B. Group IV.

1. In one department, English or Philosophy.....20 hrs.
2. In a second department, English, History, or Philosophy .....14 hrs.
3. In a third department, Latin, Greek, French, or German .....14 hrs.
4. In a fourth department, Latin, Greek, French, German, or Spanish..... 6 hrs.

A. B. Group V.

1. In one department, History or Economics.....20 hrs.
2. In a second department, Economics, English, History, or Philosophy.....14 hrs.
3. In a third department, Latin, Greek, French, or German .....14 hrs.
4. In a fourth department, Latin, Greek, French, German, or Spanish..... 6 hrs.

Requirements for Graduation to the Degree of Bachelor of Science.

FRESHMAN YEAR.

	First Term.	Second Term.
English I	3	3
English Bible I	1	1
Foreign Language: French, German, Latin, or Greek	4	4
Mathematics I	4	4
Science—Biology, Chemistry, Physics, or Surveying	4	4
Physical Training	1	1

This course will count as part of the student's Group Electives as detailed on p. 51.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For B. S. Group I, he should choose Biology.

For B. S. Group II, he should choose Chemistry.

For B. S. Group III, he should choose Physics.

For B. S. Group IV, he should choose Mathematics or Surveying.

SOPHOMORE YEAR.

	First Term.	Second Term.
*History or Political Science	3	3
Foreign Language, continuing the language taken in the freshman year	4 or 3	4 or 3
Physical Training	1	1

Group Electives [see page 51] to make not less than sixteen and not more than eighteen hours weekly.

*This work may be postponed to the junior year in case it is necessary for the student to continue a subject begun in the freshman year.

JUNIOR YEAR.

	First Term.	Second Term.
Philosophy II, V	3	3
Second Foreign Language, including Spanish	4 or 3	4 or 3
Physical Training	1	1

Group Electives and Free Electives to make not less than fifteen and not more than seventeen hours weekly.

SENIOR YEAR.

A thesis in the first term and an oration or a thesis in the second term. See page 100.

	First Term.	Second Term.
Physical Training	1	1

Group Electives and Free Electives chosen from the list on pages 101-105 to make a total for the course of not less than one hundred twenty-eight term hours.

GROUP ELECTIVES.

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of B. S. Groups I, II, III, or IV, in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 112.

B. S. Group I.

1. Biology ..... 20 hrs.
2. Chemistry ..... 14 hrs.
3. Physics ..... 8 hrs.

B. S. Group II.

1. Chemistry ..... 20 hrs.
2. Biology or Physics ..... 14 hrs.
3. Biology or Mathematics or Physics ..... 8 hrs.

B. S. Group III.

1. Physics ..... 20 hrs.
2. Chemistry ..... 14 hrs.
3. Mathematics ..... 8 hrs.

B. S. Group IV.

1. Mathematics or Surveying ..... 20 hrs.
2. Physics or Mathematics ..... 14 hrs.
3. Biology or Chemistry ..... 8 hrs.

COURSE OF INSTRUCTION

BY DEPARTMENTS.

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as especially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ASTRONOMY.

The courses in Astronomy aim to give the student a comprehensive view of the science and to acquaint him with the theories of the development of the solar system and the structure of the universe. In all courses the student is required to study the members of the solar system, star clusters, nebulae, and other celestial objects with the aid of the instruments in the Newton Observatory.

COURSE I—General Astronomy. A study of the members of the solar system, the laws that govern their motions, and other phenomena. Also a study of the stars and nebulæ, with a discussion of the laws and theories of their relations. The important applications of astronomy to time determination, navigation, etc., find their places in this course. Finally the theories of cosmogony are outlined and the evidence that the heavenly bodies give in support of these theories is discussed. The student will be required to make systematic observations and to perform appropriate experiments in connection with the course. Open to students who have had a course

in High School Physics in addition to Mathematics I, or to those who have completed Physics I.

Throughout the year, three hours.

COURSE II—Field Astronomy. Determination of time, latitude, and longitude, with the transit, sextant, and chronometer. Open to those who have completed Trigonometry and Astronomy I.

Second term, two hours.

Given in 1918-19.

COURSE III—History of Astronomy. A course tracing the progress of the science from early times, including the work of the celebrated pioneers, down to the present day. Open to students who have completed Course I.

Second term, two hours.

Given in 1919-20.

COURSE IV—Spherical and Practical Astronomy. For advanced students. The theory of observation and instruments. The theory and practice of determination of time, latitude, and longitude. Eclipses and occultations. Double star observations. Positions of planets and comets with the nine-inch equatorial. Open to students who have completed Mathematics II, Physics I, and Astronomy I, and may be begun either in first or second term.

BIOLOGY.

The courses in this department are designed to acquaint the student with the great world of life in its different forms, functions, and uses. Considerable attention is given to details in observation and to a comparative study of forms, thereby training the student to observe accurately and to think clearly and logically. The economic aspects of the subject are considered with the view of presenting some of the great problems in the applied biological sciences.

A Biological Club exists for advanced students, in

which reviews of current biological literature or of research work of the student are presented.

COURSE I—General Biology. This course aims to give the fundamentals of the science considering life in its broadest aspects; various types are studied with the view of illustrating the various forms and functions of life and of showing the general principles of organic evolution. The first term is zoological in character, the second term botanical. The field work consists in the collection and identification of some group of animals or plants; in the laboratory a series of type forms is studied. Lectures and recitations two or three hours a week, laboratory and field work two hours and a half a week.

Throughout the year, four hours.

COURSE II—Principles of Biology. A course which deals with evolution, natural selection, mutation, genetics, including Mendel's Law, inheritance of acquired characters, eugenics, and the physical basis of life and heredity as found in the cell, together with the general facts and theories of development. Lectures and assigned readings. Open to all college students above freshman rank.

Throughout the year, one hour.

COURSE III—Advanced Botany. The structure and functions of the various organs of the seed plants are considered the first term, including the study of prepared material and experimental work on living plants in photosynthesis, transpiration, respiration, growth, and reactions to various stimuli. The second term's work is largely systematic and aims to acquaint the student with the local flora, including the algæ, fungi, mosses, ferns, and seed plants. Field work forms an important feature of the course. Lectures and recitations two hours a week, laboratory and field work four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE IV—Advanced Zoology. The external and internal morphology of a series of animals illustrating the various

classes are studied. The first term is devoted to the invertebrates, the second term to the vertebrates, including the dissection of various forms; the work of the first term is extensive, that of the second term intensive and largely comparative. Lectures and recitations two hours a week, laboratory work four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE V—Economic Botany. This course is designed to give the student a knowledge of the history, distribution, methods of culture, and the uses of the various economic plants, such as those furnishing foods, fibres, flowers, drugs, timbers, etc. The cause and treatment of the diseases of the economic plants form an important feature of the work. Lectures and recitations two hours a week; laboratory work two hours a week. Open to students who have completed Course I, or its equivalent.

First term, three hours.

COURSE VI—Economic Zoology. A course corresponding to Course V, but dealing with economic animals. The major part of the time is spent in the study of insects and birds. Considerable attention is given to the identification and to the life histories of those insects which cause damage to cultivated crops. Lectures and recitations two hours a week; field and laboratory work two hours a week. Open to students who have completed Course I, or its equivalent.

Second term, three hours.

COURSE VII—Bacteriology. The aim of this course is to acquaint the student with the general distribution and activities of the micro-organisms. The laboratory work is designed to give the student training in bacteriological technique by growing some type forms and studying their morphology and physiology. A quantitative and a qualitative analysis for micro-organisms is made of air, soil, and various food products, including water, milk, butter, etc.; the disease-producing micro-organisms as well as those which cause fermentation and decay are studied. Lectures and recitations one hour a week;

laboratory work four hours a week. Open to students who have completed Course I.

Throughout the year, three hours.

COURSE VIII—Plant Physiology. A course which deals with the plant in its relation to its environment, including soil, light, heat, etc.; soil analysis, seed testing, plant breeding, and treatment of plant diseases are features of this course. This course and Courses III, V, and VI, are recommended for those who anticipate teaching or studying agriculture or horticulture. Lectures and recitations one hour a week; laboratory work four hours a week. Open to students who have completed Course I.

Second term, three hours.

COURSE IX—Cytology and Histology. A course which treats of the structure of the cell and its various modifications into tissues; the laboratory work is designed to give the student training in technique and consists in the fixing, imbedding, sectioning, staining and mounting of various tissues, mostly from animals. Lectures and recitations one or two hours a week; laboratory work six hours a week. Open to students who have completed Course I, and preferably Course IV.

First term, four hours.

Course X—Vertebrate Embryology. This course includes the study of the development of the chick and of a mammal from the time of fertilization of the egg until fully formed. Preparation of microscopic slides and the study of the various stages constitute the laboratory work. This course and Courses IV and IX are recommended for those who anticipate the study of medicine. Lectures and recitations one or two hours a week; laboratory work six hours a week. Open to students who have completed Course IX.

Second term, four hours.

COURSE XI—Human Physiology and Hygiene. This course treats of the various functions of the human body, including digestion, assimilation, excretion, irritability, etc.; the general care of the body, including foods, exercise, diseases, and their prevention will be considered. Open to all college students.

Throughout the year, one hour.

COURSE XII—Special Biology. This course is designed for students who are desirous of pursuing some line of biological work not included in the above courses. Open to students only by permission of the head of the department.

Hours to be arranged.

CHEMISTRY.

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. The non-metals, metalloids and metals, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives special attention, as also do the elementary principles of chemical dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text-books; Lee's Text-book of Experimental Chemistry and Mellor's Modern Inorganic Chemistry. Lectures and recitations two or three hours a week. Laboratory work two to four hours a week.

Throughout the year, four hours.

COURSE II—Analytical Chemistry.—Qualitative Analysis.— Bases and Acids. The student is required to work through a system of preliminary analytical reactions. The more intimate knowledge of the elements and their compounds thus

gained enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc., receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the manual. Text-book: Lee's Qualitative Chemical Analysis. The work is arranged so as to include a brief course in Spectrum Analysis. Laboratory and lectures six hours a week throughout the year. Open to those who have completed Course I, or its equivalent.

Throughout the year, three hours.

COURSE III—Analytical Chemistry.—Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric, physico-chemical, and volumetric processes as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights nnd all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirement.

Electro-Chemical Analysis.—A brief course in electrolytic methods of analysis is included in this year's work.

Laboratory work, eight hours per week. All laboratory work is supplemented by lectures. Open to those who have completed Course II, or its equivalent.

Throughout the year, four hours.

COURSE IV—Gas and Fuel Analysis. This course is offered because of the analyst's frequent need of this kind of training. It deals with the laws of gases, and with the various methods of determining the composition and calorific value of various gaseous, liquid and solid fuels. Lectures and laboratory work four hours a week.

Throughout the year, two hours.

COURSE V—Organic Chemistry. The work of this course begins with an historical sketch of the development of organic

chemistry, and a consideration of such topics as the nature of carbon, homology. isomerism, stero-isomerism, types of formulæ, nomenclature, and classification of organic compounds. The compounds of the aliphatic and aromatic series are then studied in detail. Those compounds and processes which are of technical or theoretical importance receive special attention. This course is recommended to those students who contemplate the study of medicine or other phases of chemico-biological work, or chemical engineering. Course VI should be taken in conjunction with this course. Open to students who have completed Course II.

Throughout the year, three hours.

COURSE VI—Organic Preparations, Reactions, and Analysis. This is a laboratory course involving methods for the preparation and purification, and the analysis of a number of typical organic compounds. The physical and reaction properties, and the relationships of these compounds are then studied in detail. In the prosecution of this work the student becomes familiar with the apparatus and operations involved in the work of practical organic chemistry, such as crystallization, determination of melting and boiling points, fractional distillation, steam distillation, extraction, drying, determination of molecular weights; and with the general methods of preparation, such as etherification, oxidation and reduction, saponification, nitration, sulphonation, diazotization, etc. The work in organic analysis includes in addition to the usual qualitative tests, quantitative determinations of carbon, hydrogen, nitrogen, and halogens. Laboratory work, six hours a week. Open to those who have completed or are taking Course V.

Throughout the year, three hours.

COURSE VII—Sanitary Analysis and Physiological Chemistry. The purpose of this course is to familiarize the student with the standard methods of making physical, chemical, and bacteriological examinations of air, water, milk, sewage, food, etc. Although attention will be given to the study of the distribution, cultivation, identification of various pathogenic microörganisms, stress will be placed upon the chemical changes effected by these organisms. This course is recom-

mended to those who contemplate pursuing medicine as a profession or sanitary work. Opportunity is provided for practical as well as research work along this line. For example, blood, urine, and sputum are studied, with a view of emphasizing their diagnostic value; methods for testing efficiency of disinfectants are considered; etc.

Throughout the year, three hours.

COURSE VIII—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines. It is designed to familiarize the individual with many of the analytical methods in use in commercial laboratories. Three lines of work are open to the student:

(a) **Metallurgical Analysis,** which includes the analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke, and coal.

(b) **Food Analysis,** which includes the analysis of those substances essentially organic in nature, as foods, and the detection of adulterants.

(c) **Agricultural Chemistry,** which includes analysis of soils, fertilizers, dairy products, etc.

Special courses in **Biological Chemistry** and **Toxicological Analysis** are offered to students preparing for the profession of chemistry or the study of medicine.

Hours elective.

COURSE IX—Physical Chemistry. This course aims to give the student a general knowledge of the principles of the subject by means of lectures, reading, and laboratory work. This latter work will include the determination of "the heat of neutralization," "heat of solution," "speed of reaction," solubilities, molecular weights, conductivities, refractive indices, and an experimental study of various other physical and chemical constants. Six hours per week.

Throughout the year, three hours.

COURSE X—History of Science and Development of Chemical Theory. The first part of this course is devoted to a general survey of the historical development of science, after which

an effort is made to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparation of theses. Open to students who have completed Course I.

Throughout the year, two hours.

COURSE XI—Industrial Chemistry. The work of this course has been outlined to meet the wants of those students who are particularly interested in the application of chemical processes to the commercial arts.

Throughout the year, three hours.

ECONOMICS.

The courses in this department are open to those who have completed a year's work in history or political science. Particular attention is given to the study of the development of economic life and institutions, American conditions being specifically analyzed. Students are familiarized with the accepted principles of economics, and they are given a practical acquaintance with the problems of complex economic organization. Encouragement is also offered to individual research, with a view to possible future specialization. The instruction in the several courses is conducted by means of lectures and assigned reading in journals, periodicals, and government documents. Papers on topics assigned for investigation and comparative examination of various authorities are required at different stages of the work. Throughout the work in economics its close relationship to history and political science is impressed on the student, and the work in these subjects is closely coordinated. Course I is required for admission to any of the other courses in this department.

COURSE I—Principles of Economics. This course is a general survey of the field of economics, covering production, consumption, exchange and distribution,—the accepted elements of the science. The text used is Seligman's Principles of Economics, and required readings are assigned in leading modern authorities.

First term, three hours.

COURSE II—Applied Economics. This course consists of a detailed examination of the principles that control corporations, trusts, labor, the tariff, and the social and industrial organization of the present day. Instruction is conducted by means of lectures and conferences, and by individual investigation and papers.

Second term, three hours.

COURSE III—Money, Credit, and Banking. This course treats of the nature and functions of money; the nature and uses of credit; and the functions of banks and the principles of banking as shown in the banking systems of the chief commercial countries. An intensive study is made of the theories, practice, and legislation of the United States. Scott's Money and Banking is the text used. This course alternates with Course V.

First term, two hours.

Given in 1919-20.

COURSE IV—Economic Theories. This course traces the development of economic thought from its beginning down to the present time. A study is made of the leading principles of the science as propounded by such writers as Adam Smith, Malthus, Ricardo, Mill, and Walker. The seminar method is used. This course is open to a limited number of students who have completed Courses I and II. This Course alternates with Course VI.

Second term, two hours.

Given in 1919-20.

COURSE V—Public Finance. This course comprises a study of the general problems of public finance, with especial emphasis on the fiscal needs and methods of our federal gov-

ernment and of the state and municipal governments of the United States. Modern developments in the field of taxation, the budget system, and the problems of war finance are emphasized. This course alternates with Course III.

First term, two hours.

Given in 1918-19.

COURSE VI—Labor Organizations and Problems. This course treats of the origin and nature of labor problems. The subjects studied are immigration, unemployment, child labor, labor legislation, conciliation, arbitration, co-operation, and profit sharing. An attempt is made to understand and to reconcile the so-called conflict between labor and capital. This course alternates with Course IV.

Second term, two hours.

Given in 1918-19.

EDUCATION.

The aim of the department is to give elementary instruction in pedagogy, with special reference to secondary education. The courses offered, together with Philosophy I, II, III, IV, and V, give the student ample opportunity to meet in full the requirements of the educational code of Pennsylvania for the Provisional Certificate.

COURSE I—History of Education. The development of educational practice and theory in the ancient, medieval, and modern world. Special emphasis upon Greek education, the advance in education inaugurated by the Renaissance, the chief modern educational reformers, and the modern movements in education. Lectures, text-book, collateral readings, theses. Open to juniors and seniors.

First term, three hours.

COURSE II—Principles of Secondary Education. A brief survey of the development of secondary education in Europe and America; the traits of early and middle adolescence, with special reference to the educational needs of the student; the

organization, methods, curriculum, and problems of the high school; the place and function of secondary schools in the school system and in American life; the reorganization of secondary education. Lectures, text-book, supplementary readings. Open to those who have taken Philosophy II.

Second term, three hours

Given in 1918-19.

COURSE III—Educational Psychology. The development of the mind in childhood and adolescence. The facts and principles of the learning process, with reference to instinct, habit, attention, interest, memory, formal discipline, etc. The psychology of writing and reading. Lectures, text-books, laboratory exercises. There will be two lectures and one laboratory period of two hours each week. Open to those who have taken Philosophy II.

Second term, three hours.

Given in 1919-20.

ENGLISH BIBLE.

The work in this department is intended to open to the student the rich stores of literature contained in the Bible; to familiarize him with the history of the Hebrew people, their civilization, and their influence on the world; and to lead to the critical study of the spirit and form of Hebrew literature as it is shown in the English version. The English Bible is studied as a great monument of our literature and as the source of our knowledge of one of the great civilizations of the world. The courses do not touch questions of doctrine or belief.

COURSE I—A General Introduction to the English Bible. The evolution of the English Bible will be traced in detail and illustrated by rare original copies of the early translations. The history of the Hebrew people, as told by their own chroniclers, will be studied, especial attention being given to the picturesque biography and the historical crises which vitally

affected the development of the nation. A general survey of the different types of literature to be found in the Old and New Testaments will be given. The student will be constantly reminded of the influence of Bible thought and phrase upon modern literature. Lectures must be taken down in carefully written note-books.

Throughout the year, two hours.

COURSE II—New Testament History and Literature. Stress will be laid on the importance of understanding the political and religious background of the New Testament life and thought. The growth of the Christian literature will be examined in outline, with constant reference to the new discoveries of contemporaneous documents, after which the life of Christ and the Epistles of St. Paul will be taken up in chronological order and studied both from the historical and literary standpoints. This will be essentially an interpretative course. Open to all who have taken Course I.

Throughout the year, three hours.

Given in 1919-20.

COURSE III—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Palestine from the earliest times down to the IVth century B. C. is studied in connection with the life and development of the Hebrew people. The international connections of the Hebrews are traced, the marked eras of the nation's growth are sharply defined from the Conquest to the Exile, and the later origin of Judaism explained. The principles governing the proper interpretation of all Oriental writings are defined and applied to the early Bible narratives. The relation of the Bible to science is here examined. The literature of the Old Testament, taken up chronologically, is compared with contemporaneous writings. Particular attention is given to the origin, growth, and character of the legal literature and to the theology of the prophets.

Throughout the year, three hours.

Given in 1918-19.

COURSE IV—Biblical Archeology—New Testament. A careful examination will be made of the abundant archeological

material illustrating the New Testament. Beginning with a brief sketch of modern discoveries of papyri, it will discuss the new light thrown upon the language of the New Testament and upon the ancient Greek MSS. and earliest versions, and will include a study of many Christian documents recently discovered—"Lost Gospels," libelli, prayers, hymns, sermons, letters, etc.—as well as the early funeral and other inscriptions found in Italy, Asia Minor, and Egypt.

First term, three hours.

Given in 1918-19.

COURSE V—History of the Early Church. This course will briefly consider the condition of the Christian Church at the death of St. Paul and for the quarter of a century following; will study the General Epistles and the Apocalypse of St. John in the light of contemporaneous events; and will examine the social and moral life of the early Church during the next three centuries, in the light of the patristic writings and newly discovered material.

Second term, three hours.

Given in 1918-19.

COURSE VI—Biblical Archeology—Old Testament. An extensive account of recent excavations in Egypt and Babylonia will be given, as well as such new information as has been obtained concerning ancient customs and laws illustrating Bible usages. The world relations of the Hebrew people will be emphasized, certain special important eras wil lbe studied in detail, and the history connected with that of the surrounding nations will be presented. Contemporaneous literature will be examined and parallels with Old Testament literature noted.

First term, three hours.

Given in 1919-20.

COURSE VII—Jewish Life and Literature from the Fourth Century B. C., to the Beginning of the Christian Era. This will include a study of the influence of Persia and Greece upon Palestinian Judaism; a brief sketch of the political development, special attention being given to the war of independence under the Maccabees and its effects; a detailed examination of the rise of the Pharisees and Sadducees; a study of the Wisdom

Books of the Old Testament and the non-Biblical Jewish works dating from this era, with particular reference to the Odes of Solomon and other recently discovered literature having marked influence upon the early Christian writers.

Second term, three hours.

Given in 1919-20.

ENGLISH LANGUAGE AND LITERATURE.

This department aims to cultivate straight thinking and facility of expression; to acquaint the student with the various fields of English writing from a historical standpoint; and to develop a genuine taste for good literature and the ability to interpret it. The formal study of composition is undertaken in Course I, but in all courses attention is given to correct expression, both oral and written.

COURSE I—English Composition. The principles of rhetoric, the study of selections, and frequent practice in the writing of themes. The course aims to teach the student to find appropriate thought, its orderly arrangement, and its adequate and easy expression.

Throughout the year, three hours.

COURSE II—Survey of English Literature. A comprehensive view of English Literature from the Old English period to the present time. Lectures and recitations on assigned readings from writers representative of the important periods of English Literature.

Throughout the year, two hours.

COURSE III—English Literature of the Eighteenth Century. The age of Pope and the classic tradition. Early periodical literature. Ballad opera. The beginnings of the English novel. Dr. Johnson and his circle. The romantic movement. Burns.

Throughout the year, three hours.

Given in 1919-20.

COURSE IV—Nineteenth Century Poets. The chief British poets from Wordsworth to Tennyson. The Pre-Raphaelites.

English verse at the end of the century. Especial attention is given to Tennyson and Browning.

Throughout the year, three hours.

Given in 1918-19.

COURSE V—American Literature. A general view of writing in America from the first colonial period. Lectures, recitations, and reports on assigned readings.

Throughout the year, two hours.

Given in 1918-19.

COURSE VI—The Age of Milton. The Puritan Period. Milton's early poems. Paradise Lost and Paradise Regained. The Cavalier poets. Seventeenth century prose.

Throughout the year, two hours.

Given in 1918-19.

COURSE VII—English Drama. The first term will be devoted to a study of Shakespeare, preceded by a short account of the development of the drama from the mystery plays to the Elizabethan period. In the second term the drama since Shakespeare will be studied. The work of either term may be taken separately.

Throughout the year, two hours.

Given in 1919-20.

COURSE VIII—Prose Fiction. The development of the English novel. The rise of the short-story. The work consists of class-room lectures, and a rapid reading of representative novels.

First term, two hours.

Given in 1919-20.

COURSE IX—Anglo-Saxon. Bright's Anglo-Saxon Reader, with appropriate readings in reference books on the English language. The course aims not only to give a reading knowledge of Anglo-Saxon, but also to show the development of Anglo-Saxon into Modern English. The work will be especially valuable to students planning to teach English.

First term, three hours.

Given in 1918-19.

COURSE X—Old and Middle English Poetry, not including Chaucer. The course includes such Old English poetry as Beowulf, the Wanderer, the Seafarer, and The Battle of Brunanburh; and typical Middle English histories, legends, romances, tales, and lyrics. No special training in Anglo-Saxon or Middle English is necessary.

Second term, three hours.

Given in 1918-19.

COURSE XI—The History of the English Language. Consideration is given to such problems as the origin of language, the relationship of English to other languages, vocabulary, inflections, and syntax.

First term, three hours.

Given in 1919-20.

COURSE XII—Chaucer. This course considers the literary aspects of Chaucer's poetry. The life of the poet and the historical and the literary background of the period are studied. Many of the Canterbury Tales are read, and as much more of Chaucer's other poetry is included as time allows.

Second term, three hours.

Given in 1919-20.

NOTE—Greek VII is especially recommended to students of literature. It will be accepted by the department toward the major or minor in English.

FRENCH LANGUAGE AND LITERATURE.

It is the aim of the courses in this subject to give to the student: (1) an accurate knowledge of the language of the present time both as written and spoken; (2) an appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as outlined above is carried on by means

of recitations, written exercises and essays, lectures in French, and collateral readings. Much stress is laid from the beginning upon the ability of the student to express himself directly in the language. With this end in view the work of the class room is conducted in French, and phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I—Elementary French. Olmsted's First Course in French is used as a reference book. Oral and written exercises. Dictation. Reading of easy prose.

Throughout the year, four hours.

COURSE II—Intermediate French. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. In this course brief outlines of the history of literature are also given with collateral readings from celebrated authors.

Throughout the year, four hours.

COURSE III—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, La Bruyère, Pascal, Bossuet, Fénelon, Mme. de Sévigné, Mme. de La Fayette.

Throughout the year, three hours.

Given in 1919-20.

COURSE IV—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire, Montesquieu, Rosseau, the Encyclopedists, Beaumarchais, Lesage, Marivaux, André Chénier.

Throughout the year, three hours.

Given in 1918-19.

COURSE V—French Literature in the First Half of the Nineteenth Century. A study of the principal authors of this period: Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Sainte-Beuve, Balzac.

Throughout the year, three hours.

Given in 1918-19.

COURSE VI—French Literature after 1850. A study of the literary movements in France after the decline of Romanticism, with especial reference to the novelists and dramatists. Outside reading will be required in addition to rapid reading from a number of the authors of this period. A brief survey will be made of contemporary writers, including Rostand and Maeterlinck.

Throughout the year, three hours.

Given in 1919-20.

COURSE VII—French Prose Composition. Designed especially for those desiring to teach French.

Throughout the year, two hours.

GEOLOGY.

Including Geography, Mineralogy, and Paleontology.

Geology deals with the constitution and history of the earth and the character, history, and relationships of the developing life upon it. It explains many of the natural phenomena at hand, or that one meets in travel, and calls forth careful observation and clear thinking. The courses are planned to give thorough training in the principles of the subject and a sound basis for future industrial, economic, or professional work in its various departments.

COURSE I—General Geology. This course treats of the history of the earth together with its structure and physiography; attention is given to the various agencies which modify the earth's surface, including the atmospheric, aqueous, igneous, and organic; the structure and kinds of rocks, formation of soils, and the deposits of the various economic materials, including coal, oil, gas, ores, and precious stones are considered. Recitations three hours a week; field and laboratory work two hours a week. Open to those who have had a course in high school or college chemistry.

Throughout the year, four hours.

COURSE II—Advanced Physiography. This course deals with the physiography of the lands and the oceans, and with the atmosphere in relation to climate and weather conditions. Stress is laid on the method of development of topographic forms, and training is offered in field and laboratory methods in physical geography. In the laboratory and field, types of land forms, the methods of making maps, structural, longitudinal, and cross sections are studied. Recitations two hours a week; laboratory or field work two hours a week.

First term, three hours.

COURSE III—Commercial and Regional Geography. In this course a study is made of the geographic basis of commerce and commercial products, and stress is laid on the regional phase of the subject. A more detailed study of conditions in the United States is made the basis for comparison with conditions in other countries. There are many large manufacturing plants and shipping concerns in this region, some of which may be visited. Recitations three hours a week.

Second term, three hours.

COURSE IV—Mineralogy. Crystallography, blowpipe analysis, and determinative mineralogy. A minor part of the work in the laboratory deals with crystal forms and crystal models, and a major part takes up the study of about one hundred fifty minerals by means of the blowpipe and other physical and chemical tests. Open to students who have completed a year in chemistry.

First term, three hours.

COURSE V—Paleontology. This course includes the study of invertebrate and vertebrate animal and plant fossils with reference to structure, classification, habitat, and geologic and geographic distribution. The permanency of certain types, the extinction of some groups, and the rise of new forms are noted with the bearing on the theory of evolution. Representatives of the various groups are studied in the laboratory and field. Recitations two hours a week; laboratory and field work two hours a week. Open to students who have completed Course I and Biology I, or their equivalents.

Second term, three hours.

GERMAN LANGUAGE AND LITERATURE.

The methods employed in the first two years of this study are intended to establish a broad and thorough foundation for an appreciative study of German literature in the advanced courses. Accuracy and intelligent pronunciation are insisted upon; and the principles of phonetics are represented in simple form and are put to practical use in the reading exercises in the class room. In prose composition more attention is given to reproductive exercises and theme-writing than to translations. The oral use of the German language in the class room will be constantly increased until the recitations are conducted entirely in German.

A German Conversation Club, in which a special opportunity for linguistic practice is afforded, has been organized among the students of the college. Membership is open to those who have taken Course II, or its equivalent.

COURSE I—Elementary German. Zinnecker's Deutsch für Anfänger. Such reading as the following: Storm's Immensee, Baumbach's Im Zwielicht, Heyse's L'Arrabbiata, Goebel's Hermann der Cherusker, Wildenbruch's Neid, Schiller's Wilhelm Tell. Oral exercises based on the Gouin Series and oral and written reproduction of portions of the text read. The aim of this course is to enable the student to read and understand accurately German prose of ordinary difficulty and to acquire some proficiency in writing and speaking German.

This course represents from five to six terms of ordinary high school work, but may not be taken to remove language requirements for admission to college.

Throughout the year, four hours.

COURSE II—Intermediate German. Reading of modern prose, modern comedy, and classical drama. One hour a week

throughout the year will be devoted to prose composition, reproduction of texts in German, and short themes in German.

Open to all students who have credit for German I, or who present two years of German for admission to college.

Throughout the year, four hours.

COURSE III—Introduction to Eighteenth Century Classics. Lessing, Goethe, and Schiller. Two dramas of each are read in the order named and at least one work of each is critically analyzed. Monthly themes in German and a semestral essay in English. Collateral reading: Robertson's History of German Literature, chapters on the above poets. Alternates with Course IV.

Throughout the year, three hours.

Given in 1919-20.

COURSE IV—German Novel and Short Story. Rapid reading of one or more works of H. von Kleist, Eichendorf, Hauff, Hoffman, Stifter, Ludwig, Freytag, C. F. Meyer, Keller, Storm, Heyse, Fontane, Wildenbruch, Sudermann, and Rosseger. A part of this reading is done outside the class and is made the basis for written themes in German. Collateral reading: Robertson's History of German Literature, chapters on the authors read in class. Alternates with Course III.

Throughout the year, three hours.

Given in 1918-19.

COURSE V—German Conversation and Composition. The aim of this course is to train the student in colloquial German in speech and writing. Selections from modern authors are read to the class and reproduced from memory, and themes are written weekly on assigned subjects. The conversation is based on Kron's Daily Life and Vos' Materials for German Conversation. Given in conjunction with Course III. This course, conducted in German, is especially intended for those who look forward to the teaching of German.

Throughout the year, one hour.

COURSE VI—Goethe's Life and Work. First Term. Reading of works illustrating different periods of Goethe's literary

development, such as Götz von Berlichingen, Egmont, Torquato Tasso, and selections from Dichtung und Wahrheit. Collateral reading from Bielschowsky's Goethe.

Second Term. Goethe's Faust. Interpretation of the drama and discussion of its philosophic and ethical ideas.

In this course a considerable amount of collateral reading will be required. Alternates with Course VII.

Throughout the year, three hours.

Given in 1918-19.

COURSE VII—Nineteenth Century Drama. Kleist, Grillparzer, Hebbel, Ludwig, Gutzkow, Wagner, Hauptmann, Sudermann. Rapid reading of representative play of each. Short themes in German on the reading matter. Collateral reading: Robertson's History of German Literature, chapters on the authors read in class. Alternates with Course VI.

Throughout the year, three hours.

Given in 1919-20.

COURSE VIII—German Literature. A systematic study of German literature from the earliest times, with special emphasis on the classic periods of the twelfth and eighteenth centuries. Lectures in German, reports, and readings. Collateral reading: Thomas' Anthology of German Literature, Woerner's Niebelungenlied, Schiller's Braut von Messina, and Goethe's Faust. Alternates with Courses IX and X.

Throughout the year, two hours.

Given in 1919-20.

COURSE IX—History of the German Language, and Advanced Prose Composition. A general survey of the historical development of the German language, with discussions of such linguistic problems as bear relation to current usage. Text-book: Behagel's Die Deutsche Sprache. Recitations and lectures. This course is especially intended for those preparing to teach German.

First term, two hours.

Given in 1918-19.

COURSE X—Middle High German. Study of the dialect in its relation to modern High German, and readings from Hart-

mann von Aue's Der arme Heinrich, Das Niebelungenlied, and Walther von der Vogelweide's lyrics.

Second term, two hours.

Given in 1918-19.

COURSE XI—Scientific German. This course has been specially arranged for the student of science who is interested mainly in a reading knowledge of German. Open to students who have completed Course II.

Throughout the year, three hours.

GREEK LANGUAGE AND LITERATURE.

The aim of the department is to give the student a practical acquaintance with Greek life and thought. This can be adequately gained only through a first-hand knowledge of the literature. By accurate work in the first years of the study of the language the student can acquire the ability to read widely and independently.

It is realized that some students have been denied the opportunity to secure a mastery of the language who would be glad to have something of the inspiration that comes from contact with Greek culture and institutions. For such the courses in Greek art and in Greek literature in translation are available.

The department possesses a carefully selected collection of casts of antique sculpture, a considerable number of Greek vases and vase fragments, about a thousand photographs, and several hundred lantern slides.

Students entering college without Greek may take Greek A, and be prepared to enter the later courses with a minimum loss of time.

GREEK A—Elementary Greek. This is a course intended to prepare students to enter Greek I, after a year of careful work.

After the completion of some such book as Allen's First Year of Greek, selections are read from Xenophon and other Attic authors. Students of some maturity and reasonably well grounded in Latin will be prepared in one year to do the work in Greek I with profit.

Only in exceptional cases will this course, without further work in the subject, be counted toward a degree.

This course may not be taken to remove entrance conditions.

Throughout the year, five hours.

COURSE I—Homer. The Iliad or the Odyssey. Detailed study of two books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Greek Composition.—A weekly exercise in composition based on passages from classic authors. The aim is to develop a vocabulary and an accurate knowledge of the fundamentals of Greek syntax. Dictation and impromptu writing of Greek are emphasized.

Throughout the year, four hours.

COURSE II—Lysias. Selected Orations. As an introduction to this part of the work a detailed study is made of the history of Athens in the Periclean age and of the Peloponnesian War.

Plato—The Apology and Crito and selections from the Phaedo. Outline of the history of Greek philosophy.

This course is made the basis of the study of historic Greek life and institutions.

Throughout the year, three hours.

COURSE III—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Iphigeneia in Tauris, and Aristophanes' The Frogs. The course is made not only a study of the origin and development of the Greek drama, but also a study in literary evolution.

Throughout the year, three hours.

COURSE IV—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings.

Course III and IV are offered in alternate years. In 1918-19 III will be given. Open to all who have completed Course II.

Throughout the year, three hours.

COURSE V—Greek Testament. A close study of a portion of the New Testament, usually the Gospel of Mark. Familiar and accurate knowledge of vocabulary, syntax, and idioms is aimed at. Acts and some of the shorter Epistles are read more rapidly to develop facility in grasping the thought of the original. Much stress is laid on sight reading and on accurate but untraditional translation. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

COURSE VI—Greek Literature. Survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

Courses V and VI are offered in alternate years. In 1918-19, V will be given.

The following courses are open to students who have completed Course I and to a limited number of juniors and seniors who have no knowledge of Greek.

Greek VII—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. Much attention is given to the development of literary forms. The growth of the Greek drama and its influence on modern drama are closely studied.

Throughout the year, two hours.

COURSE VIII—Classical Archeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean civilization. Greek vase painting. Greek architecture.

Throughout the year, two hours.

COURSE IX—Classical Archeology. Greek Sculpture.

Throughout the year, two hours.

Courses VIII and IX are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required.

HISTORY.

The aims of this department are to give that knowledge of the facts and philosophy of history which belongs to a liberal education, to equip the student for more advanced work in the historical and social sciences, and to prepare the student for journalism or for the study of the law. With these ends in view the courses are so arranged as to cover a wide field of study in a thorough and orderly manner. The evolution of European civilization from its sources, the growth and influence of Anglo-Saxon institutions, the development of the Modern European nations and of the United States are the general themes of the work. Especial emphasis is laid upon the Renaissance and Reformation, the French Revolutionary and Napoleonic eras, and the development of the great European powers from the Congress of Vienna to the present time. The settlement and expansion of the American colonies and the social, economic, and political evolution of the United States are given careful and detailed study. History is presented as a real educative process and the close connection between history, political science, and economics is constantly kept in mind, the work in these three subjects being closely

coordinated. The department has the appropriate library authorities for the several courses, and source materials are used where available. The method of instruction is a combination of lectures and required reading with written and oral quizzes and class discussion. Course I is required for admission to the succeeding courses.

COURSE I—Europe during the Middle Ages. This is a general course in the history of western Europe from the Teutonic migrations to the close of the Seven Years' War. The first term covers the main developments in the period from the breakdown of the Roman Empire through the Crusades. The second term is occupied with the growth of the national states, and with the religious and political struggles for balance of power. Emphasis is laid on social and economic conditions during the period covered. The text for class guidance is Robinson's History of Western Europe, and assigned readings are given in various sources and authorities.

Throughout the year, three hours.

COURSE II—Modern European History. This course begins with a thorough examination of the various countries in Europe during the period between 1763 and the opening events of the French Revolution. The French Revolution and the Napoleonic era are given adequate treatment in their relation to France and to the rest of Europe. The work of the Congress of Vienna and the effect of the policies there adopted are studied, in their relation to each of the great European countries and in their international phases. Special attention is given to the unification of Italy and of Germany, to the various constitutional changes in France, and to the formation of the Triple Alliance and the Triple Entente. A careful study is made of the near and far Eastern question, the awakening of Russia, the partitions of Africa, and the situation at the outbreak of the great world-war. The text used for class guidance is Hazen's Europe since 1815. The course is a lecture course with assigned readings and oral and written quizzes.

Throughout the year, three hours.

COURSE III—The Renaissance and the Reformation. The first term is devoted mainly to the Renaissance in Italy and subordinately in England. The political, intellectual, literary, and aesthetic phases of the movement are studied. Burckhardt and Symonds are the authorities used, with Einstein for the English Renaissance. The second term is occupied with the Reformation from Wycliffe to the Peace of Westphalia. The texts are Hausser and Fisher.

This course alternates with Course IV.

Throughout the year, two hours.

Given in 1918-19.

COURSE IV—History of England. This course comprises a brief survey of English history from the Anglo-Saxon invasions to the Norman Conquest, and a more detailed study of the period from 1066 to the present. The text for class room guidance will be Tout's History of Great Britain. This is a lecture course with readings from the sources and authorities.

This course alternates with Course III.

Throughout the year, two hours.

Given in 1919-20.

COURSE V—American History, 1492 to 1830. The purpose of this course is to familiarize the student with the history of America and of American institutions. Beginning with the period of discovery and colonization a careful study is made of the development of the colonies, and of the causes which led up to the American Revolution. The Revolutionary movement and the period of the Articles of Confederation, the adoption of the Federal Constitution, and the social, economic, and political development of the United States up to the year 1830 are subjected to careful analysis. Bassett's Short History of the United States is the text used for class guidance.

This course alternates with Course VI.

Throughout the year, two hours.

Given in 1919-20.

COURSE VI—American History, 1830 to 1918. This course is a continuation of Course V, and takes up the study of the history of the United States from 1830. The triumph of the Jacksonian Democracy, the annexation of Texas, the controv-

ersy over slavery, and the causes leading up to the war between the states are made subjects of careful investigation. The outbreak and progress of the struggle which followed the election of Abraham Lincoln, and the great work done by him in saving the Union and bringing the fight against secession to a successful conclusion are followed step by step. A thorough study is made of the Reconstruction Period, of the development of nationalism since 1870, and of America's growing influence as a world power. Attention is given to the growth of industry and commerce throughout the period after 1860. The same text is used as in Course V.

This course alternates with Course V.

Throughout the year, two hours.

Given in 1918-19.

ITALIAN LANGUAGE AND LITERATURE.

This department offers two courses in which a thorough study of the grammar is made and a good reading knowledge is obtained. The first year is devoted to an intensive study of the grammar and the reading of easy modern texts. In the second year a study is made of the older Italian classics.

COURSE I—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as De Amicis, Cuore; Goldoni, Il vero Amico; Manzoni, I Promessi Sposi.

Throughout the year, three hours.

Given in 1918-19.

COURSE II—Literature in the Thirteenth and Fourteenth Centuries. Dante, La Divina Commedia; Petrarca, Rime Scelte, etc.

Throughout the year, two hours.

Given in 1919-20.

LATIN LANGUAGE AND LITERATURE.

The courses in the Latin department are intended to direct the student to a systematic study of the lan-

guage and its development, to acquaint him through a varied reading of the best authors with the leading features of the literature, and to make him familiar with the main facts of Roman history, life, and civilization. Technical grammar and composition are studied only in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and fac-similes of inscriptions and has a good collection of photographs, lantern slides, and antiquities for illustrative purposes.

The instruction is given by means of recitations, supplemented by lectures and, in the advanced courses, by individual work.

COURSE I—Cicero, De Senectute or De Amicitia. Selections from **Livy, Sallust,** and **Cicero's** Letters covering in outline the history of the Republic. Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation.

Throughout the year, four hours.

COURSE II—Horace, selected Odes and Satires.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's life and philosophy, and to as much of the history and customs of the period as sheds light on the subject matter.

Readings from Latin Verse of all periods. History of Latin literature.

Throughout the year, three hours.

COURSE III A—Roman History. A brief introductory course of lectures on the history of Rome from the beginning to the Civil War period. Extensive readings in English, covering the same period. The Civil War and the Early Empire will be studied more intensively in connection with readings in Latin from Cicero's Letters and Tacitus' Annals. Reports and as-

signed readings in Mommsen, Heitland, Ferrero, Merivale, and the standard biographies.

Throughout the year, three hours.

B—Martial, selected Epigrams. General study of Roman Satire with comparative readings from other satirists. Collateral reading in the history of the period.

Quintilian, Institutions X. Lectures and discussions on Roman literary forms, and on Roman education.

Throughout the year, three hours.

One of these courses alternates with Course IV. Open to all who have completed or are taking Course II.

Given in 1919-20.

COURSE IV—Roman Private Life. Lectures on Roman Private Life with collateral readings in Latin, largely from Pliny's Letters, illustrating the subjects treated. In addition to the Latin readings, library readings and reports on specific subjects in connection with the course are required. The department has a collection of antiquities, charts, and models for illustrative purposes.

The course alternates with Course III. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1918-19.

COURSE V—Roman Topography. A lecture course which does not limit the field strictly to the topography of Rome, but attempts to give a general knowledge and appreciation of the City of Rome, its architecture, monuments, history, and customs, as well as its contribution to modern civilization and life. The department has a good collection of illustrative material—maps, topographical models, charts, photographs, and lantern slides. The library contains most of the important books in English needed for the course, in which students are required to do considerable collateral reading.

May be elected without previous preparation in Latin.

Throughout the year, two hours.

Given in 1919-20.

COURSE VI—Advanced Latin Composition. Practice in writing prose, with careful study of syntax and idiom. Individual work designed primarily for those who look forward to teaching or to graduate work. One hour class work and one private conference weekly.

All students expecting recommendations to teach Latin should take this course. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1918-19.

NOTE—For students entering college without complete preparation in Latin, instruction will be provided in such secondary Latin as may be required to satisfy entrance conditions.

MATHEMATICS.

The courses in this department are arranged with a view to develop in the student a certain degree of mathematical maturity and to familiarize him with the subject matter and methods of mathematical work, as well as to provide for the more or less technical and traditional requirements in the different mathematical subjects.

COURSE I—Algebra and Trigonometry. This is a continuation of the algebra required for entrance. Much attention is given to graphical representation of linear and quadratic equations, and the following topics are considered: mathematical induction and the binomial theorem for positive integral exponents, logarithms, undetermined coefficients, permutations and combinations, the theory of equations and an elementary treatment of determinants. The elements of trigonometry on the plane and on the sphere.

Throughout the year, four hours.

COURSE I A—Solid Geometry, Algebra and Plane Trigonometry. This course is offered to those who do not present solid geometry for entrance but who desire to continue their

mathematical studies. It includes work in what might be termed intermediate algebra, rapidly reviewing quadratic equations and reading some new chapters. The course concludes with a study of plane trigonometry.

By arranging in advance with the instructor and the registrar, this course may be discontinued at the close of the section on solid geometry.

Throughout the year, four hours.

COURSE II—Analytic Geometry and Calculus. An elementary treatment of the fundamentals of analytic geometry, of two and three dimensions. This course includes a complete elementary treatment of differential and integral calculus.

Throughout the year, four hours.

COURSE II A—Selected Chapters in Mathematics. This course requires Course I or Course I A, and is composed of an introductory chapter on elimination, including the use of determinants; the study of the algebraic polynomial, by means of graphical representation; the analytic geometry of the line and the more important theorems of equations; the definition of a derivative; simple applications of the calculus to problems involving tangents, maxima and minima; and the study of elementary transcendental functions.

This course is especially adapted to those who are expecting to teach secondary mathematics.

Throughout the year, three hours.

COURSE III—Advanced Calculus. This course is a continuation of Course II. It should be taken by those who intend to pursue advanced work or are looking forward to work in applied mathematics. This course presupposes Course II or Course II A.

First term, three hours.

COURSE IV—Differential Equations. An elementary treatment of differential equations, with applications to physics and mechanics. This course is necessary to a well-rounded course in mathematics.

Second term, three hours.

COURSE V—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometry of Position; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1919-20.

COURSE VI—Functions of a Complex Variable. A general introduction to the theory of functions of a complex variable.

Throughout the year, two hours.

Given in 1918-19.

PHILOSOPHY.

The courses of the department are planned with the following purpose: to bring about reflective views of human society and the world order; to establish an attitude toward life and its problems that will make the individual an efficient factor in promoting and conserving the welfare of his fellowmen; to lead the student to a better understanding of the laws of human nature, and to a critical study of himself; and to acquaint those desiring it with laboratory methods in psychology. The standpoint is in strict accord with the assured results of scientific research. Facts are brought together from the various fields of science, and presented in such a way as to produce breadth of vision in the interpretation of natural and social phenomena.

COURSE I—Logic. The nature and function of thought; the methods of science; errors of perception, memory, and testimony; immediate and mediate reasoning; material and formal fallacies; the logic of argumentation. Text-book, assigned

readings, lectures, and written exercises. Open to juniors and seniors.

Second term, three hours.

COURSE II—General Psychology. The structure and the functions of consciousness are exhibited by means of lectures, class-room demonstrations, and recitations. The subject is treated from the standpoint of natural science. Each student is required to perform a limited number of experiments. Open to juniors, and to sophomores who major in the department.

First term, three hours.

COURSE III—Experimental Psychology. An introductory course for students who desire to become acquainted with the methods of investigating psychological phenomena. Experiments in the psychology of the special senses, attention, memory, feeling, fatigue, reaction-time, etc. Lectures, laboratory work, and supplementary readings. Two hours of laboratory work for one hour of credit. Open to those who have taken or are taking Course II.

Throughout the year, two hours.

COURSE IV—Social Psychology. An examination of the social implications of mental development in the individual and the race. The influence of the social environment upon the development and the organization of native tendencies; the rise of self-consciousness; the evolution of the social consciousness through the application of moral judgment. The psychology of the crowd, of fashion, and of custom. Lectures, text-book, collateral readings. Open to those who have taken Course II.

First term, two hours.

Given in 1918-19.

COURSE V—Ethics. An introductory study of the moral life from the standpoint of its development, theory, and practice. An attempt to lay a rational basis for the moral life in the individual. Lectures, text-book, written exercises, and supplementary readings. Open to those who have taken Course II.

Second term, three hours.

COURSE VI—History of Ancient and Medieval Philosophy. A survey of the development of philosophic thought from Thales to the Renaissance, considered in its relation to the sciences and to religious, social, and political conditions. Special attention is given to Democritus, the Sophists, Plato, and Aristotle, and their influence upon subsequent thought. Open to juniors and seniors.

First term, two hours.

Given in 1919-20.

COURSE VII—History of Modern Philosophy. The growth of philosophic thought from the time of Bacon and Descartes. The relations are exhibited which philosophy has sustained to the development of modern civilization. Lectures, text-book, and assigned readings. Open to juniors and seniors.

Second term, two hours.

Given in 1919-20.

COURSE VIII—Current Philosophical Tendencies. A course designed to acquaint the student with contemporary tendencies in philosophical thought. The standpoints of outstanding present-day philosophers in Europe and America will be discussed. Lectures, collateral readings, and theses. Open to seniors, and to juniors who have had two courses in philosophy.

Second term, two hours.

Given in 1918-19.

COURSE IX—Theism. The true basis of knowledge is inquired into, the traditional arguments for the existence of God are critically examined, and the attempt is made to show that the theistic conception of the world is a necessary postulate of reason and of human life as a whole. Open to all who have taken Bible I, and have taken or are taking Course II.

First term, two hours.

Given in 1919-20.

COURSE X—Philosophy of Religion. The origin and nature of religion; the relation of the philosophy to the history of religion; the trustworthiness of the religious consciousness; the universal element in all religions; the philosophy of primitive beliefs and practices, such as fetichism, magic, and sacri-

fice; the characteristics which distinguish tribal, national, and universal religions; the causes of variation in religion; the reason why so few religions have been missionary; the relation of religion to secular life, to science and art, to morals and theology; the ultimate value of religion; the religion of the future. Lectures, text-books, theses. Open to those who have taken Bible I, and have taken or are taking Course V.

Second term, two hours.

Given in 1919-20.

COURSE XI—History of Religion. This course will treat of the earlier forms of religious worship, and the origin of the great historic cults. It will give special attention to the tenets of the ethnic religions at the epoch of their highest development, and will trace sympathetically the essential influences of these religions upon national and social life, and specially upon morals and personal religious experience. The relation of Christianity to the cycle of ancient historical religions will be considered. Lectures, text-books, and theses. Open to those who have taken Bible I, and have taken or are taking Course II.

First term, two hours.

Given in 1918-19.

COURSE XII—Philosophic Basis of Christian Fundamentals. After a brief consideration of the nature and value of religion in general, this course will take up the importance of environment upon Christian origins, and the relation of Christianity to the contemporaneous Jewish and Gentile religions, noting essential agreements and differences. This will be followed by an attempt to define the true nature and essence of Christianity, and to state briefly the philosophy of such distinctive Christian doctrines as the incarnation, atonement, miracles, Christian faith, conversion, etc. Christian ideals will be examined in the light of present-day problems of civilization and culture; the question will be raised whether the supremacy and ethical transcendence of Christ do not represent the ultimate ideal of religion, and insure the finality of Christianity. Open to those who have taken Bible I, and have taken or are taking Course V.

Second term, two hours.

Given in 1918-19.

PHYSICS.

This department offers courses which contribute to general culture, and those which give training for technical work. They are presented by means of lectures with experimental demonstrations, combined with recitations and discussions of problems. In addition the student performs experiments in the laboratory for the purpose of obtaining a practical knowledge of the fundamental laws and principles of the science.

COURSE I—College Physics. This course aims to present the fundamental principles of physics, develop its laws and acquaint the student with the relation between energy and matter. These principles and laws are presented in the study of mechanics; and their applications to heat, sound, light, and magnetism and electricity follow. Lectures and recitations three hours a week. Laboratory work two hours.

Throughout the year, four hours.

COURSE II—A Problem Course to supplement Course I. Open only to students who are pursuing Course I.

Throughout the year, one hour.

COURSE III—Elementary Analytic Mechanics. A course which deals with the mathematical side of physics. Special attention is given to the solution of problems in statics, kinematics, and kinetics, and other problems related to technical as well as advanced work in physics. Physics I and Mathematics II are prerequisites.

Throughout the year, two hours.

Given in 1918-19.

COURSE IV—Physical Measurements. A lecture and laboratory course involving the adjustment and use of instruments of precision. The significance and accuracy of results, together with the sources of errors and means of their elimination are carefully discussed. Open to students who have completed Course I.

Throughout the year, three hours.

COURSE V—General Physics. A course in theoretical physics dealing principally with mechanics, heat, the properties of vapor and gases, the theory of solutions, the kinetic theory of gases, thermo-dynamics, magnetism and electricity. Lectures, experimental demonstrations and recitations, two hours a week. Laboratory work four hours a week. Open to students who have completed Course I and Mathematics II.

Throughout the year, four hours.

COURSE VI—History of Physics. Open as a free elective to students who have completed Course I.

Throughout the year, two hours.

Given in 1919-20.

COURSE VII—Electrical Measurements. Lectures and recitations, supplemented by laboratory work in the theory of measurements designed to acquaint the student with the practical methods of measuring electrical quantities. It includes the standard methods of determining resistance, current, E. M. F. capacity, induction, conductivity, etc. One hour lecture and recitation; four hours laboratory. Open to those who have completed Physics I and Mathematics I.

First term, three hours.

COURSE VIII—Direct and Alternating Currents. A study of the production, control, and distribution of the electric current. Special attention is given to the dynamo and motor, not in the sense of an engineering problem of construction, but in their relation to the utilization of electrical energy. The course includes the principles and practice of transformation and conversion of alternating currents. One hour lectures and recitations, four hours laboratory work. Open to students who have completed Physics VII.

Second term, three hours.

OTHER COURSES. For students desiring to specialize in physics, courses dealing with any of the subjects treated under this department will be given as the work is demanded.

POLITICAL SCIENCE.

The courses in this field are planned so that emphasis is laid upon the organization and functions of national, state, and local governments in the United States, with the two-fold purpose of preparing students for the privileges and responsibilities of citizenship, and of familiarizing them with a concrete example of government as a foundation for the more advanced theoretical work in the nature and functions of the state in general. Three courses are devoted to government and modern political problems, and one course is offered on the general principles of political science. There are also courses on constitutional law and on international law.

COURSE I—American Government and Politics. This course comprises a study of the structure and functions of our national and state governments. Throughout the course present-day political problems of national and local interest will be made subjects of class discussion. Beard's American Government and Politics and Bryce's American Commonwealth are used as outlines for the work.

First term, three hours.

COURSE II—Municipal Government. This course includes an outline of the growth of American municipalities and a study of the organs and functional mechanism of modern cities of the United States and Europe. Emphasis is laid upon the newer tendencies in municipal government, the commission form of government and the city-manager plan coming in for thorough analysis. Munro's The Government of American Cities, and The Government of European Cities by the same author furnish a basis for the work.

Second term, three hours.

COURSE III—Comparative Government. A study is made of the constitutional structure and organization of the governments of the more important European countries. The object

of the course is to enable the student to compare these governments, both in theory and in their practical workings, with each other and with our own. The course is open only to those who have had Political Science I and II and History I, as these courses are necessary to a proper understanding of the subject matter of this work. Ogg's Governments of Europe is the text-book used.

First term, two hours.

COURSE IV—Principles of Political Science. This course comprises a study of the origin, nature, and functions of the state and a critical examination of ancient, medieval, and modern political theories. The requirements for admission to this course are the same as for Course III. Garner's Introduction to Political Science furnishes the general outline for the course.

Second term, two hours.

COURSE V—Constitutional Law of the United States. This course is intended to familiarize the student with the leading principles of the American constitutional system. The course will deal principally with the federal constitution and with the decisions of the Supreme Court of the United States. This course will be found of special value to those students who contemplate advanced work in political science or who intend to enter upon the study of the law.

First term, two hours.

COURSE VI—International Law. The object of this course is to set forth the rules and principles of international law as a positive system with an historical background of custom and convention. The attributes of sovereign states, and their rights and duties as members of the family of nations, in peace, in war, and in the relation of neutrality, will receive adequate treatment.

Second term, two hours.

PUBLIC SPEAKING.

The courses in public speaking are designed to train the student in the composition and the delivery of the

various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I—Written analysis and interpretation of extracts from great orations. Extemporaneous speaking. This course aims to develop directness, earnestness, and dignity in public address. During the first term a careful study is made of the psychological principles which govern effective speaking. Sample speeches are studied, and assigned passages are delivered by each student. During the second term the same work is continued but more extemporaneous work is required.

Elective for all who are taking or have completed English I.

Throughout the year, one hour.

COURSE II—Argumentation and Debate. First term. In this term the emphasis is laid upon theory. The principles of analysis, the rules of evidence, the elements of logic, and the kinds of fallacies are discussed. There is also brief-drawing leading up to written and oral debate. Second term. The theory of the subject is concluded; the emphasis, however, is laid upon practice.

Elective for all who have completed Course I.

Throughout the year, one hour.

COURSE III—The Oration. First term. An examination of the principles of the oration as presented in some such book as Shurter's The Rhetoric of Oratory. Collateral readings are assigned. Second term. A number of selected orations will be tested in the light of the principles studied during the first term. Each student will write a brief eulogy and will be given oral practice in the delivery of several of the forms of speeches.

Elective for all who have completed Course I.

Throughout the year, one hour.

COURSE IV—Practical platform work in the delivery of the colloquial, elevated, and impassioned styles of oratory. Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation.

A systematic study of voice culture is begun in this course. The "Natural Tone Drill" is the system used. A study of the principles underlying gesture work is also required.

Elective for all who have completed Course I.

First term, two hours.

COURSE V—The study of voice culture is continued in this course in a more advanced and technical way. Dramatic readings from Shakespeare and interpretative studies of the masterpieces of literature will be given each student. Some extemporaneous platform work will also be required.

Elective for all who have completed Course IV.

Second term, two hours.

SPECIAL WORK for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

SPANISH LANGUAGE AND LITERATURE.

This department offers two courses in which a thorough study is made of the grammar and a good reading knowledge is obtained. Concurrent with the present trend of things, considerable attention is given to study of practical Spanish, including familiarization with commercial language. Attention is also given to conversational work.

COURSE I—Elementary Spanish. Espinosa and Allen's Elementary Spanish Grammar, with abundant oral and written exercises. Reading of such easy Spanish as Alarcon, El Capitán Veneno; Galdos, Dona Perfecta.

Throughout the year, three hours.

COURSE II—A study of modern Spanish novels and dramas. Composition work is continued with some such text as Waxman's A Trip to South America.

Throughout the year, three hours.

SURVEYING AND GRAPHICS.

The courses in surveying and graphics are based largely on the needs of the civil engineer and the draughtsman. The work is scientific and yet thoroughly practical in its scope and methods. While these courses are provided for students taking B. S. Group IV, they are open as electives to all students.

COURSE I—Descriptive Geometry and Elementary Mechanical Drawing. The problems are those relating to the point, line, and plane, the representation of surfaces, their intersection and development. This course includes instruction in the use and care of instruments and simple drawing in orthographic, isometric and cabinet projections.

Throughout the year, four hours.

COURSE II—Plane Surveying. This course consists of a series of lectures, supplemented by exercises in the field. The student is taught the use of the chain, tape, compass, transit and level. The work in the drawing room consists of the computations incident to the work of the surveyor and in plotting from notes taken in the field. Open to students who have completed Mathematics I.

First term, three hours.

COURSE III—Railway Surveying. This course consists of a study of railway curves and earthwork. The field work includes a reconnaissance, the preliminary and location surveys, and the necessary computations and maps. Open to students who have completed Course II.

Second term, three hours.

COURSE IV—Mechanical Drawing. This course includes plotting, tracing, the making of blue prints, detail and dimension drawing from sketches, models, and from other drawings with a different scale. Open to students who have completed or are taking Course I.

Throughout the year, three hours.

COURSE V—Applied Mechanics. This course includes a study of the strength and elasticity of beams and columns, with the application of the principles of mechanics; in the first term to structures of steel and timber, and in the second term to structures of re-inforced concrete. Open to students who have completed Mathematics II and Physics I.

Throughout the year, three hours.

COURSE VI—Structural Mechanics. This course includes a study of strains and stresses with the application of the principles of mechanics to the design of roof and bridge trusses, and the determination of the dimensions and details of the same. Design of a simple bridge with working drawing. Open to students who have completed or are taking Course V.

Throughout the year, four hours.

COURSE VII—Highway Surveying. A study of the methods and materials of modern highway construction and maintenance, supplemented by lectures and papers prepared from government reports and current periodicals. Several short trips will be made to nearby cities to inspect materials and methods of construction. Open to students who have completed Courses II and III.

Second term, three hours.

Given in 1918-19.

PHYSICAL TRAINING.

For Men—The object of this department is to promote the health, increase the strength and secure the symmetrical development of the students. These objects are accomplished by class exercises in the gymnasium during the fall and winter, on the field in the spring, and by periods of optional work after class hours.

Physical measurements and tests are taken upon entrance, at the close of the college course, and at other times as may be necessary. These determine the student's condition and needs, and the character and

amount of exercise necessary to overcome irregular development or deformities that are amenable to physical exercise.

Students will receive personal advice with reference to habits of life, exercise, study and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise is required of all men two hours a week, from the middle of October to the middle of May. Exemption will be granted only on certificate from a physician designated by the Faculty Athletic Committee, the examination to be at the student's expense.

Two hours.

For Women—The aim of the work is to promote the general health and poise of the body. The work is based on a modified form of the Swedish System of gymnastics. It includes marching, tactics, free movements, Indian club and dumb-bell exercises, folk dancing, aesthetic dancing, organized games and out of door sports. In addition to the regular class exercises opportunity is offered to do individual work under the direction of the instructor. The gymnasium is conveniently located in Hulings Hall.

All women are required to take the prescribed work. Exemption will be granted only on certificate from a designated physician, the examination to be at the student's expense.

Two hours.

Students exempted from these courses are required to elect an equivalent number of hours from other departments.

REQUIRED WORK.

For graduation in any Group, all work specified as required must be completed, and additional subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty-eight term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. In the senior year a thesis and an oration are required. But in the Groups leading to the B. S. degree two theses or a thesis and an oration may be presented.

Sixteen recitations weekly is the regular number, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours' work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

LIST OF ELECTIVES.

The following list of elective studies includes all subjects that are elective in any of the Groups. Some of the subjects are required in one or more of the Groups, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflicts in hours.

3. So far as possible all required work below his rank as well as Group Electives must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject. No credit toward graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5. The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the course of instruction found on pages 52 to 99.

	First Term.	Second Term.
Astronomy I	3	3
Astronomy II	..	2
Astronomy III	..	2

	First Term.	Second Term.
Astronomy IV	4	4
Biology I	4	4
Biology II	1	1
Biology III	4	4
Biology IV	4	4
Biology V	3	..
Biology VI	..	3
Biology VII	3	3
Biology VIII	..	3
Biology IX	4	..
Biology X	..	4
Biology XI	1	1
Biology XII	2	2
Chemistry I	4	4
Chemistry II	3	3
Chemistry III	4	4
Chemistry IV	2	2
Chemistry V	3	3
Chemistry VI	3	3
Chemistry VII	3	3
Chemistry VIII	4	4
Chemistry IX	3	3
Chemistry X	2	2
Chemistry XI	3	3
Economics I, II	3	3
Economics III, IV	2	2
Economics V, VI	2	2
Education I	3	..
Education II	..	3
Education III	..	3
English II	2	2
English III	3	3
English IV	3	3
English V, VI	2	2
English VII	2	2
English VIII	2	..
English IX, X	3	3
English XI, XII	3	3
English Bible II	3	3

	First Term.	Second Term.
English Bible III	3	3
English Bible IV, V	3	3
English Bible VI, VII	3	3
French I	4	4
French II	4	4
French III	3	3
French IV	3	3
French V	3	3
French VI	3	3
French VII	2	2
Geology I	4	4
Geology II	3	..
Geology III	..	3
Geology IV	3	..
Geology V	..	3
German I	4	4
German II	4	4
German III	3	3
German IV	3	3
German V	1	1
German VI	3	3
German VII	3	3
German VIII	2	2
German IX, X	2	2
German XI	3	3
Greek I	4	4
Greek II	3	3
Greek III	3	3
Greek IV	3	3
Greek V	2	2
Greek VI	4	4
Greek VII	2	2
Greek VIII	2	2
Greek IX	2	2
History I	3	3
History II	3	3
History III	2	2
History IV	2	2
History V	2	2

	First Term.	Second Term.
History VI	2	2
Italian I	3	3
Italian II	2	2
Latin I	4	4
Latin II	3	3
Latin III	3	3
Latin IV	2	2
Latin V	2	2
Latin VI	2	2
Mathematics 1	4	4
Mathematics I A	4	4
Mathematics II	4	4
Mathematics II A	3	3
Mathematics III	3	..
Mathematics IV	..	3
Mathematics V	3	3
Mathematics VI	2	2
Philosophy I	..	3
Philosophy III	2	2
Philosophy IV	2	..
Philosophy VI, VII	2	2
Philosophy VIII	..	2
Philosophy IX, X	2	2
Philosophy XI, XII	2	2
Physics I	4	4
Physics II	1	1
Physics III	2	2
Physics IV	3	3
Physics V	4	4
Physics VI	2	2
Physics VII	3	..
Physics VIII	..	3
Political Science I, II	3	3
Political Science III, IV	2	2
Political Science V, VI	2	2
Public Speaking I	1	1
Public Speaking II	1	1
Public Speaking III	1	1
Public Speaking IV, V	2	2

	First Term.	Second Term.
Spanish I	3	3
Spanish II	3	3
Surveying and Graphics I	4	4
Surveying and Graphics II, III	3	3
Surveying and Graphics IV	3	3
Surveying and Graphics V	3	3
Surveying and Graphics VI	4	4
Surveying and Graphics VII	..	3

GENERAL INFORMATION.

COLLEGE FEES.

All students pay a fee of $125 a year, $65 payable at the opening of the first term and $60 at the opening of the second term. This includes incidental, library, and gymnasium fees.

In the laboratories the following fees are charged each term:

Astronomy I, II	$ 2.00
Astronomy IV	7.50
Biology I	2.00
Biology III and IV	4.00
Biology V and VI	3.00
Biology VII, IX and X	7.50
Biology VIII	5.00
Chemistry I	4.00
Chemistry II, III, VI, VII, VIII	7.50
Chemistry IV, IX	5.00
Education III	1.00
Geology I, II, V	2.00
Geology IV	6.00
Philosophy III	1.50
Physics I	3.00
Physics IV, V	5.00
Surveying I	2.00
Surveying II, III, IV	3.00

In addition, breakage of material is charged at actual cost.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for. No fees are returned except in case of sickness.

LIVING EXPENSES FOR MEN.

The young men of the college board in Cochran Hall, in fraternity chapter houses, or in private families. The cost of board in Cochran Hall is $135.00 a year. The cost in chapter houses and private families is, as a rule, ten to twenty-five per cent. more. One-half the room rent in Cochran Hall is due and payable at the opening of the first term and one-half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half-year's payment. The rate for rooms varies from forty to eighty dollars a year for each student. All rooms are to be surrendered not later than noon on Monday of Commencement Week. The amount for board in Cochran Hall is due as follows: $35.00 at the opening of the year; $35.00 on the second Monday in November; $35.00 at the opening of the second term; $30.00 on the third Monday in April. If the student has a roommate, the necessary expenses for a year will fall within the following estimates:

	Low.	Liberal.
Term and laboratory fees	$125.00	$165.00
Room rent, fuel, light	40.00	80.00
Table board	135.00	160.00
Books	15.00	40.00
Total	$315.00	$445.00

Expenses other than those enumerated depend largely upon the student's tastes and habits, and the college does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more. This,

of course, does not include traveling or personal expenses. An economical student can live on $390 a year.

A circular detailing the expense of living in Cochran Hall will be sent on request.

FOR WOMEN.

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors; and young women have access to all departments of the college, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The hall is under the charge of the Dean of Women, whose influence, as well as that of her competent assistants, is constantly felt in the social, moral, and religious development of the young women under her care.

For the proper maintenance of the hall as a college home for young women, certain specific rules are essential; but it is the policy of the college to make only such regulations as will best protect the interests of those who reside there.

The rules governing the conduct of the young women of Hulings Hall were carefully drawn up by

the administration of the college and the Dean of Women, and by action of the faculty were entrusted to the Student Government Association of the hall, which assumes the responsibility for the observance of all rules and regulations. Thus under the guidance of the Dean of Women and the executive board of the Association, the young women of the hall are given individual and community responsibility for their conduct in college life. A copy of the regulations for the government of the hall will be sent on request.

The residents of the dormitory maintain in the building the services of a resident trained nurse. This valuable addition to the hall life has been justified by the better conditions for health and comfort afforded the young women. For this purpose an assessment of a five dollar house fee is made payable at the beginning of the year.

The rooms are furnished with single beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: sheets, pillow-cases, bed covering, towels, and napkins.

The rates by the year, including board, room, heat, and light, are $225.00 for each student. The rooms are all double, so that two students occupy each room. In case a student desires to room alone, there is an additional charge of $50.00. Bills are payable in four installments as follows: $70.00 at the opening of the year, $55.00 on the second Monday in November, $55.00 at the opening of the second term, and $45.00 on the third Monday in April. A deposit fee of $10.00 is required when a room is reserved. This fee is credited on the last payment of the year.

AID TO STUDENTS.

Self-Help—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the college or the boarding clubs. Others find in town opportunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the college to help students who help themselves.

The Lindley Endowment—By the will of the late Miss Lucy Lindley, of Meadville, the college received the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund—In 1904 Mrs. Hettie F. Ballantyne, of Pittsburgh, gave to the college thirty thousand dollars in memory of her husband, James Alexander Ballantyne; the fund is known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expenses, of the sons and daughters of ministers of the Pittsburgh Conference, and of young men from within the bounds of that conference who are studying for the ministry. This fund is administered by the officers of the college faculty on recommendation of a committee of the Pittsburgh Conference.

The George W. Wright Scholarship Fund—This is a gift of $1,000 from the Honorable George W.

Wright, of Mercer, Pa., a former student of Allegheny College. The proceeds of this fund are to constitute a scholarship to be awarded each year on the nomination of Mr. Wright's representative.

High School Scholarships—The Board of Trustees has established prize scholarships of fifty dollars each, to be awarded each year to honor students in the best high schools in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must go to the one having maintained the highest scholastic rank during his high school course; if the class numbers more than ten and less than twenty-five, it may go to the first or second in rank; and if there are over twenty-five in the class, the scholarship may go to any one of the highest three. The amount of the scholarship is credited toward the payment of the fees of the freshman year.

Educational Society Loans—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. The loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference. The loans are made by the Society on the recommendation of the faculty.

No aid from the above mentioned funds, or from any other source, is given to students who use tobacco.

A student having received aid from any of the college funds will be given a letter of dismissal to enter

another college only after all such aid shall have been returned.

RELIGIOUS CULTURE.

The college was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

Chapel services are held each morning and all students are required to be present. Regular attendance on Sunday mornings at some church, selected by the student, or his parents, is also expected. Prayer meetings are held on Wednesday evening of each week. The results are manifest in the quickening and strengthening of many in the religious life.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Bible study classes and a mission study class are well attended.

The religious influence of the college is not in any sense sectarian, but Christian. On the rolls this year are representatives from seventeen Christian denominations.

THE ADVISER SYSTEM.

Each student on entering chooses some member of the faculty, who serves throughout the freshman year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be

perfectly fraternal, without restraint on either side. At the beginning of the sophomore year the professor under whom the student chooses to do his major work becomes the student's adviser for the remainder of the course.

HONOR SYSTEM.

All college examinations and quizzes are conducted under an honor system, by which the presence of instructors in the room is dispensed with, and the student is placed on his honor. The following signed declaration is required to make the examination valid: **"I hereby declare on my honor that I have neither given nor received aid in this examination."**

All cases of suspected fraud are dealt with by the Student-Honor Committee, who are authorized to decide on the question of guilt and to recommend to the faculty that a senior, junior, or sophomore found guilty of a first offense, and a freshman found guilty of a second offense, be dismissed from college.

CLUBS.

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members along the lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the college. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The German Club, an organization for students under the leadership of the professor of German, meets fortnightly for the purpose of arousing and sustaining interest in the German language as a vehicle of oral expression and of studying German life, institutions, and politics. Membership is open to all students who have had one or more years of regular class-room work in German.

The Philo-Franklin Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate. The society is under the guidance of representatives of the departments of English and Public Speaking.

Le Petit Salon meets monthly for the purpose of French conversation and study of French art, literature, etc. Its alternate sessions are in conjunction with the Meadville branch of the Alliance Francaise, an international organization. The membership is limited to thirty and includes the instructors and advanced students in French.

The Modern Problems Club, under the guidance of the department of History and Economics, meets monthly for the discussion of current social, economic, and political problems. This club, which is a branch of the Intercollegiate Civic League, is limited to juniors and seniors.

The Tingley Biological Club, composed of instructors and advanced students in the Biology department, meets fortnightly for the presentation and discussion of papers by the various members; each member pre-

sents two papers a year dealing with some phases of biological research.

The Thoburn Club is an organization composed of such men of the college as are fitting themselves for the ministry, missionary work, Young Men's Christian Association service, or any other public religious activity. It brings to the college each year a number of lecturers on such subjects as would naturally appeal to the membership; and holds monthly meetings for social intercourse, intellectual debate, and religious stimulus. It is in close alliance with the Thoburn Chair of English Bible and Philosophy of Religion. For many years it has been one of the best known religious forces in the college.

PRIZES.

Four annual prizes are open for competition among the students of the college classes.

The Wakefield Oration Prize—Mr. James A. Wakefield, of Pittsburgh, offers a prize of fifty dollars in the name of his grandfather, the Rev. Samuel Wakefield, D.D., awarded in February of each year to the young man delivering the best oration. The winner of this prize represents the college in the Intercollegiate Civic Oratorical League Contest held in May.

The Philo-Franklin Oration Prize—The old Philo-Franklin Literary Society has secured a permanent endowment fund of six hundred dollars for prizes in oratory. The income provides a first and second prize. The contest is open only to members of the Philo-Franklin Forum.

Heckel Prizes in Science—Two prizes, a first prize

of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburgh. These prizes are awarded for the best two theses written by graduate or undergraduate students upon scientific subjects. The theses are presented on the first day of May and the prizes awarded on the following Commencement Day.

Ballinger and Siggins Prize—A prize of twenty-five dollars is offered by Messrs. Ballinger and Siggins, of Meadville, to be given each year to that member of the senior class who has shown unusual excellence in chemistry, under terms agreed upon by the donors and the head of the department of Chemistry.

ATHLETICS.

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all men of the college are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. By an arrangement voluntarily entered into by the students, all young men pay $5.00 and all young women $3.00 for the support of athletics. For this they receive season tickets to all games. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be *bona fide* students taking not less than twelve hours work; must

have been registered at the opening of the year in which they compete; may not have more than one condition, or be delinquent in the current term's work; and may not receive remuneration, directly or indirectly, for their services. The college is a member of the National Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES.

The degree of Bachelor of Arts is conferred upon students who complete in a satisfactory manner the requirements under any one of the A. B. Groups I-V. The degree of Bachelor of Science is conferred upon students who complete in a satisfactory manner any one of the Science Groups.

Bachelors of Arts of this college may pursue, in residence, work in not more than two distinct lines of study; and on the completion of a full year's work, including a satisfactory thesis, receive the degree of Master of Arts.

The degree of Master of Science is conferred on Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the college pays a diploma fee of five dollars.

REGISTER OF STUDENTS.

Graduate Students.

Adams, Helen R. ..... Meadville
A.B., Allegheny, 1916—Latin

Dewey, Ralph Smith ..... Ripley, N. Y.
B.S., Allegheny, 1917—Chemistry

Hill, Paul Emerson ..... Emlenton
B.S., Allegheny, 1917—Chemistry

Roach, Ethel Stover ..... Pittsford, N. Y.
B.S., University of Rochester, 1916—Biology

Seniors.

Bianchi, Humbert ..... Ambridge
Brooke, Grace Loar ..... Uniontown
Brown, Mark Clemant ..... Pleasantville
Brumbaugh, Ruth ..... Franklin
Carr, Georgia Edna ..... Wesleyville
Castle, John Granville ..... Swissvale
Catherman, Raymond Fowler ..... Meadville
Chao, Shih-fu ..... Woosung, China
Cline, Byron Vito Travis ..... Apollo
Copeland, Maude Elizabeth ..... Meadville
Deens, Louise Ferguson ..... Beaver
Dowdell, Olive Sergeant ..... Beaver
Easterwood, Helen Cullum ..... Meadville
Elder, Myrtle Nina ..... Saybrook
Emery, Esther Louise ..... Mercer
English, Eva Janette ..... New Castle
Engstrom, Gustaf Evan ..... Kane
Fogo, Helen Pauline ..... Wellsville, O.
Freer, Isabel ..... Marion, O.
Gartner, Annetta ..... Meadville
Hammerton, Ruth Florence ..... Meadville

Hartung, George Michael, Jr. ..... Evans City
Hill, William Adam ..... Ernst
Hollingshead, Paul Edward ..... Gustavus, O.
Kelley, Ernest Jasper, Jr. ..... Chandler's Valley
Kelley, Malcolm Francis ..... Meadville
Lane, Paul Warren ..... Turtle Creek
Linn, Hazel Bell ..... Espyville Station
McConnell, Anna McCullough ..... Parnassus
McCreary, Robert Emmett ..... Monaca
McLain, Helen Elizabeth ..... Meadville
Marvin, Isabelle Edith ..... Meadville
Miller, Marion Frances ..... Butler
Mondereau, Pearl ..... Meadville
Nichols, Dorothy Winslow ..... Meadville
Olson, Lena Marie ..... Knox
Pollard, William Michael ..... Saegertown
Rhoads, Christine Pauline ..... Butler
Salguero, Mercedes Maria ..... Mayaguez, Porto Rico
Saxton, Norene Roberta ..... Jamestown, N. Y.
Scannell, Martin James ..... Athens
Shorts, Hallie Daniel ..... Saegertown
Simcox, Janet Haxton ..... Sandy Lake
Simpson, Gertrude Alice ..... New Brighton
Singley, Adelaide ..... Meadville
Stearns, Paul ..... Meadville
Swaney, Mary Agnes ..... Springboro
Walker, Mabel Elizabeth ..... Erie
Wissinger, Harry Lawrence ..... Pitcairn
Wood, Irene Permilla ..... Pittsburgh

Seniors, 50

Juniors.

Abrams, Helen Ruth ..... Jamestown, N. Y.
Arnold, Mary Kathryn ..... Clarion
Baldwin, Joseph Silliman ..... Washington, D. C.
Barr, Glenn Ross ..... Marienville
Beatty, Othello Ziegler ..... Butler
Brooks, Leda Sussanna ..... Geneva
Brownell, Robert Foote ..... Smethport
Chapin, Margaret Oakes ..... Union City
Clother, Wells McDermott ..... Painesville, O.
Clouse, Mary Musette ..... Geneva
Cook, Mack Dickson ..... Ashtabula, O.
Curry, Ethel Virginia ..... Meadville
Deutsch, Arthur Watson ..... Meadville
Downing, Helen Louise ..... Meadville
Eberlee, Stanley Lee ..... Cattaraugus, N. Y.
Edwards, Cecil Asenath ..... Oil City
Eiermann, Antoinette Marie ..... Erie
Ellis, Ruth Moore ..... Meadville
Falkinburg, Rae Edgar ..... Meadville
Faulkner, Robert Lee ..... Wattsburg
Filer, Enoch Crawford ..... Greenville
Fithian, Ruth ..... Butler
Francis, Elizabeth Marie Louise ..... Columbus
Gates, Claire E. ..... Oil City
Goslin, Nelson Samuel ..... Arnold
Graham, Ralph Edmundson ..... Pittsburgh
Hall, Earl Dewey ..... Meadville
Hamilton, Mary Eleanor ..... Akron, O.
Hammon, Fletcher Horace ..... Pittsburgh
Heckman, Edward ..... Meadville
Hetner, Fred Fridell ..... Greensburg
Hodgkinson, Aileen Hayes ..... Meadville
Horth, Inda Arlene ..... Meadville
Horth, Pearl Helen ..... Meadville
Houghton, Margaret Martha ..... Barnes
Johnson, Vesta Irene ..... Meadville
Jones, Charles Luther ..... Pittsburgh
Kelly, Mary Agnes ..... Meadville
Kirkpatrick, Francis Earl ..... Butler

Lewis, Virginia Whitney ..... Johnstown
Leyda, Henrietta Elizabeth ..... Oil City
Longanecker, Judson D. ..... Khedive
McCabe, Edna Carr ..... New Kensington
McCurdy, Harold Adams ..... Mercer
McEntarfer, Clifford Abraham ..... Union City
Martin, John Owen ..... Charleroi
Miller, Ruth Pauline ..... Meadville
Monroe, Gertrude Elnora ..... Corry
More, Hattie Susan ..... Youngsville
Morrow, Frank William ..... Union City
Muckinhoupt, Harry Bryan ..... Meadville
Mumaw, Martha Ruth ..... Scottdale
Munhall, Helen ..... Meadville
Neal, Meredyth ..... Union City
Patterson, Gordon Derby ..... Meadville
Reniers, Nellie Kinkead ..... Pittsburgh
Rhodes, Marjorie ..... New Castle
Richard, Ida Lucile ..... Meadville
Rishell, Madeleine Louise ..... Johnstown
Root, Louise Adaline ..... Cambridge Springs
Roudebush, Marjorie Eloise ..... Meadville
Salchow, Serena ..... North East
Spangle, Charles William ..... Dunkirk, N. Y.
Sprong, Amanda Ernestine ..... Buffalo, N. Y.
Stetson, George Arthur ..... Cambridge Springs
Stewart, F. Leslie ..... Franklin
Stockdale, Doris Marjorie ..... Stockdale
Strickland, Helen Jeannette ..... Cattaraugus, N. Y.
Thoburn, Crawford Bennett ..... Meadville
Volk, John P. ..... McKeesport
Walker, Charles Lenwood ..... Mt. Pleasant
White, Marian ..... Kittanning
Widdowson, Olevia Rebecca ..... Mahaffey
York, Zella Marion ..... Corry
Zehrung, Winfield Scott ..... Meadville

Juniors, 75

Sophomores.

Allgood, Ella Maxine ..... Tionesta
Armagost, Leo Arnold ..... Venango
Baker, Maude Carmeleta ..... Ruffsdale
Baum, Wesley Farber ..... Dawson
Benson, Gilbert ..... Falconer, N. Y.
Bollinger, Giles Mallalieu ..... Somerset
Booth, Edwin Prince ..... Charleroi
Bourquin, Warren Ducray ..... Meadville
Brown, Durward Belmont ..... Wheeling, W. Va.
Campbell, Loudon Lee ..... Wilkinsburg
Carew, Elizabeth ..... Erie
Carroll, Kathryn ..... Meadville
Clothier, Reverdy Mead ..... Silver Creek, N. Y.
Clough, Lyle Alton ..... Corry
Collins, Alton Laffey ..... Kellettville
Davis, Helen Marie ..... Woodlawn
Diamond, Alice ..... Meadville
Diamond, Helen Troy ..... Meadville
Diefenderfer, Florence Marguerite ..... Conneaut, O.
Dickey, Harold Westlake ..... Oil City
Dunn, David Compton, Jr. ..... Meadville
Dunn, Harriet May ..... Connellsville
English, Floyd Wilbur ..... DuBois
Evans, Dorothy Magdalene ..... Erie
Freer, Jean ..... Marion, O.
Gamble, Doris Ray ..... Warren
Gibbons, Florence ..... Sharon
Gordon, Wendell Brown ..... Pittsburgh
Green, Ellen Frances ..... Conneaut, O.
Hager, Alice Mae ..... Uniontown
Hall, Helen Dorcas ..... Warren
Henderson, Joseph Hugh ..... Vanderbilt
Hoover, Leonard Hyskell ..... Irwin
Humes, John Jackson ..... Johnstown
Hurst, Alfred Russell ..... Sewickley
Jenkins, Susan Marie ..... Butler
Kerr, Norwood William ..... Meadville
King, Helen Elizabeth ..... Uniontown
Kraschneske, Ella Henrietta ..... Erie

Laffer, Cornelius Callender, Jr. ..... Meadville
Laffer, Frederick Sackett ..... Meadville
McCafferty, Thomas Bowles ..... Sharpsburg
McClelland, Charles Kenneth ..... Meadville
McKinley, George Alexander ..... Meadville
McKinney, Gladys Ellene ..... Meadville
McMurren, Elmer LeRoy ..... Edinboro
Manning, Howard Havens ..... Meadville
Megahan, Howard Dougan ..... Wilkinsburg
Meredith, George Frederick ..... Pittsburgh
Miller, Helen Duffield ..... Franklin
Miller, Louis Alfred ..... Meadville
Morris, Harley Jackson ..... Blooming Valley
Mossman, Harland Winfield ..... Portland, N. Y.
Nash, Ruth ..... Erie
Nelson, Anna ..... McKeesport
Newmaker, Edith Louise ..... Warren
Norton, Arthur Leroy ..... Phalanx Station, O.
Pappenhagen, Florence Elizabeth ..... Meadville
Parrish, Frank Merrill ..... Reynoldsville
Patterson, Harry Bruce ..... Saegertown
Pierson, Leon Dewey ..... Warren, O.
Piper, James Young ..... Johnstown
Potter, Edith Prescott ..... Turtle Creek
Prather, Don Kramer ..... Meadville
Preston, John Francis ..... Monessen
Raymond, Gladys Marie ..... Meadville
Reed, Matthew Verne ..... Pittsburgh
Robinson, Alice Beryl ..... New Florence
Robrecht, Hazel Kathlyn ..... Wheeling, W. Va.
Rowley, Richard Floyd ..... Pittsburgh
Ruse, Harold Jesse ..... Monessen
Scannell, John ..... Athens
Scheffer, Paul Kistler ..... Meadville
Schreiner, Frederick ..... Johnsonburg
Skinner, Clifford Weld ..... Ashville, N. Y.
Smith, Laurence Victor ..... Meadville
Smith, Merl L. ..... Geneva
Stephens, Dallas Malone ..... Meadville
Terpening, Marguerite ..... Edinboro

Thomas, Gertrude ..... Meadville
Thomas, Terence W. ..... Meadville
Webb, Paul Adam ..... Erie
Welty, James Alman ..... Meadville
Wiltsee, Wesley Warren ..... Meadville
Withey, George Lindsay ..... Sloatsburg, N. Y.
Zearley, Lillian Ruth ..... Uniontown

Sophomores, 86

Freshmen.

Alexander, Clayton Leverne ..... Ashville, N. Y.
Bailey, Oakland King ..... Titusville
Bailey, Roger Sharon ..... Titusville
Baldwin, Roger Lee ..... Washington, D. C.
Bartlett, Mary Zeva ..... Conneaut Lake
Belknap, Claribel Avis ..... Erie
Bell, Hugh Stevens ..... Willoughby, O.
Bird, John Caraway ..... Meadville
Blass, Marguerite Elizabeth ..... Erie
Blodgett, Warren Pierce ..... Fredonia, N. Y.
Bollinger, Alice Belle ..... Meadville
Brown, Marjorie Elizabeth ..... Meadville
Brownell, Carolyn ..... Meadville
Brumbaugh, Inez ..... Franklin
Carnahan, Donald Evans ..... Monongahela City
Carney, William Joseph ..... Erie
Cawthorne, Harold J. ..... Linesville
Clark, Earl C. ..... Meadville
Cleveland, Margaret ..... Erie
Cole, Philip Muse ..... Meadville
Colley, Thomas Edward ..... DuBois
Curry, Dorothy Mae ..... Meadville
Curtiss, Florence Luella ..... Meadville
Dean, Marjorie ..... Portland, N. Y.
Dickson, Francis Harmon ..... Ashtabula, O.
Dunbar, George F. ..... Meadville
Dunn, Clarence Shaffer ..... Meadville
Dwyer, Paul Sumner ..... Linesville
Dye, Ralph William ..... Sandy Lake
Eisenmann, Arthur S. ..... Meadville
Ellsworth, Robert Henry ..... Meadville
Farley, Harry Patrick ..... Meadville
Fehr, Elizabeth Gertrude ..... Aspinwall
Fielder, Sereta Marguerite ..... Erie
Figley, Thelma Navina ..... Burgettstown
First, Frances Hester ..... Conneaut Lake
Fix, E. Lester ..... Meadville
Fogo, Joseph Ross ..... Wellsville, O.
Francis, Thomas, Jr. ..... New Castle

Glassman, Abe ..... Warren
Gold, Helen Elizabeth ..... New Brighton
Goodrich, Basil DeWitt ..... Ellwood City
Goodwin, Kennard Hill ..... Meadville
Gornall, Merle Fletcher ..... Bemus Point, N. Y.
Graham, Nancy Catherine ..... Franklin
Grant, Willard ..... Meadville
Grenelle, Alice Lydia ..... Rochester, N. Y.
Hartman, Marlin Wallace ..... Erie
Haynes, Irene Eleanor ..... Springwater,, N. Y.
Helmlinger, John Dyer ..... Pittsburgh
Henderson, John Frederick ..... Wellsville, O.
Hilderbrand, Mary Dunlap ..... Meadville
Homan, Earl Wilson ..... Erie
Hoover, Amanda ..... Franklin
Hughes, Evelyn ..... Union City
Iams, Merrill Brown ..... Girard
Irvin, Robert Lintner ..... Meadville
Jelbart, Charles Butler ..... Meadville
Jelbart, Chester McCabe ..... Meadville
Kelly, Robert H. ..... Meadville
Kerr, Dorothea ..... Meadville
Kiernan, J. George ..... Meadville
Kramer, Arthur ..... Meadville
Kruse, Edna Dorothy ..... West Valley, N. Y.
Leaf, William Newton ..... Rochester
Leberman, Gordon ..... Meadville
Leberman, Selden L. ..... Meadville
Leffingwell, Harold Randall ..... Meadville
Leffingwell, Victor ..... Meadville
Lermann, Ruth T. ..... Monessen
McAllister, Irene ..... McKeesport
McCluer, Frederick William ..... Warren, O.
McCreary, John Charles ..... Monaca
McCune, Marguerite ..... Fayette City
McEntarfer, Izola R. ..... Union City
McKinley, Samuel Walter ..... Meadville
McMahon, John Frederick ..... Vandergrift
Mason, Mary S. ..... Pittsburgh
Melcher, Webster DeWitt ..... Swissvale

Miller, Florence Agnes ..... Corry
Millhoff, Helen Rebekah ..... Johnstown
Moore, Floyd Harry ..... Randolph
Morneweck, Carl D. ..... Greenville
Morrison, Marian ..... Meadville
Mull, Frank Herbert ..... Jeannette
Nelson, Norman Patrick ..... New Castle
O'Neil, Alyse ..... Hamilton, N. Y.
Pees, Dorothea Rachel ..... Meadville
Peters, Margaret Elizabeth ..... Meadville
Pierson, Ruth Alice ..... Meadville
Piper, John Rex ..... Pittsburgh
Powney, Ethel Marian ..... Monessen
Prather, John Byron ..... Meadville
Putnam, Irene ..... Conneaut Lake
Reed, Truman Perkins ..... Oil City
Roach, Dorothy Stover ..... Pittsford, N. Y.
Roberts, Mary ..... Donora
Russell, James Oscar ..... Edgewood
Salguero, Arturo, Jr. ..... Mayaguez, Porto Rico
Schnell, Frieda Regina ..... North Tonawanda, N. Y.
Scott, Wilbur Adair ..... Monongahela
Shryock, Katharyn Adelaide ..... Meadville
Shuster, Helen Marguerite ..... Greensburg
Sigendall, William Sheldon ..... Meadville
Sjoberg, Ruth Olivia ..... Jamestown, N. Y.
Smith, Elizabeth Mary ..... Jefferson
Spangler, Casper Schott ..... Pleasantville
Speer, Harry ..... Meadville
Stewart, Maxwell Slutz ..... Johnstown
Tannehill, Norman Bruce ..... Ccottdale
Tennies, Raymond Aric ..... East Randolph, N. Y.
Thoburn, Wilbur Collins ..... Meadville
Titus, Margaret Ruth ..... Barnes
Traum, Wilhelmine ..... Meadville
Tuck, Gladys Marie ..... Cleveland, O.
Turner, Elizabeth ..... Freeport
VanDevander, Don Jackson ..... Pittsburgh
Walker, Anna Jane ..... Bruin
Weckerly, Louisa ..... Meadville

Weigand, George Edward ..... Warren, O.
Welty, Walter Hassler ..... Meadville
Widdowson, Arthur P. ..... Mahaffey
Williams, Justin Clement ..... New Castle
Williams, Miriam Beth ..... New Castle
Williams, Paul Harding ..... Punxsutawney
Wise, Ruth Marie ..... Meadville
Wood, Ethel Muriel ..... Franklin
Wood, Gretchen Simon ..... Oil City
Yaste, Elizabeth ..... Grafton, W. Va.
Zetler, Paul Alan ..... Hazelhurst

McCausland, James ..... DuBois
Potter, Clyde David ..... Nebraska

Freshmen, 132

Special Students.

Bleakley, Kenneth H. ..... Franklin
Burns, Harland M. ..... Meadville
Diamond, Ramona Victoria ..... Meadville
Hughes, Cecile Mae ..... Meadville
James, Eben Hodson ..... Kane
Knorr, John Hannen ..... Meadville
Land, Leon Rosser ..... New York, N. Y.
Nye, Rowland Forrest ..... Woodstock, Vt.
Utech, P. Henry ..... Meadville

Special, 9

SUMMARY.

	Men	Women	
Resident Graduates	2	2	4
Seniors	19	31	50
Juniors	33	42	75
Sophomores	54	32	86
Freshmen	76	56	132
Specials	7	2	9
Total	191	165	356

DEGREES CONFERRED.

JUNE 4, 1917.

Master of Science.

Fred Hugh Amon
John Bright
Charles William Cares
Carl Arlington Gilbert
LaMarr Ritchie

Bachelor of Arts.

Olga Gwendolyn Baird
Josephine Bourquin
Julia Brooke
William Arthur Brownell
Charlotta Marie Campbell
Mary Katherine Carew
Elizabeth Chase
Miller Bartley Clendenien
Mary Adelaide Clendenin
Veleda Louise Clough
George Smith Craig
Helen Miles Davison
Ruth Elizabeth DeLand
Lowell Claudius Drake
Murray Henry Ellis
Lilian Marie Fetzer
Mary Ruth Flahaven
E. Gertrude Hanks
Mildred Lucile Hazen
Elizabeth Frazer Hendershot
Arthur Fitzgerald Hughes
Carmen Kahle
Ethyl Marie Kelley
Helen Marie Kulp
Ira Cuttler Lackey
Don Cameron Longanecker
Clarence Eugene McKinney
Rachel Amanda Maxwell
Charles Miner Miller, Jr.
Grace Monroe
Graydon William Mumford
Martha Kirk Nebinger
Harold Dexter Peckham
Ruth Elnora Pitt
Bessie Cecelia Preston
Mildred Irene Richey
Agnes Cannon Robinson
Genevieve Annette Scott
John Bell Scott
Arthur Merle Shenefelt
Agnes Elizabeth Smith
Pauline Gray Stolz
Esther Alice Stone
Gale French Stroup
Elizabeth Ritter Sykes
Robert J. Tuttle
Agnes Laidlaw VanHoesen
Helen Louise Warner
John Carson Weaver
Anderson McLean White
Robert Yost
Dudley DeForest Zuver

Bachelor of Science.

Lewis Franklin Acker, Jr.
Edwin Vincent Askey
Edison Howard Baker
Nelson Henry Boyd
Chalmer Clinton Curtis
Ralph Smith Dewey
Foster Baird Doane
Mark Wright Frishkorn
Paul Emerson Hill
Herbert Cecil Hodgkinson
Hildur Eugenia Johnson
Harry Albert Jones
Harold Bruce Kahle
William Ethelbert McConnell
Lowell White Monroe
Robert Law Moore
James Maffett Neill
Albert Burnell Pappenhagen
Frederick J. Powell
Kenneth Gerner Reider
William Clyde Richey
Merwin G. Shryock
Robert Gittens Smith
Leonell Clarence Strong
Lewis Milton Swoap
Jesse Tarr
Dale Edmund Thomas
Charles Conroy Wagner
Ralph Lafayette Weide
Albert Bennett Wilber
Paul Burton Wolf

PHI BETA KAPPA.

ETA CHAPTER OF PENNSYLVANIA

Chartered September 2, 1901.

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President William H. Crawford.

Vice President.

Hon. John J. Henderson.

Secretary.

Professor William A. Elliott.

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From the Senior Class.

William Arthur Brownell
Mildred Lucile Hazen
Elizabeth Frazer Hendershot
Ethyl Marie Kelley
William Ethelbert McConnell
Mildred Irene Richey
Leonell C. Strong
Dudley DeForest Zuver

THE SUMMER SESSION.

The Summer Session of Allegheny College will be held from Monday, June 10, to Saturday, July 20. Instruction will be given every week day for the six weeks. For each course two term hours credit will be given, which will count toward a degree.

The plan of the summer school is to give work that will meet primarily the needs of the three following classes of students: (1) Teachers who may desire a better training for their work in the class room, or who are preparing to pass examinations required for the various teachers' certificates; (2) college students who may desire to obtain advanced college credits or to remove conditions, and even high school students desiring to be admitted to college may be able to remove entrance conditions; (3) any person who may desire to enter the courses for the purpose of self-improvement. No requirements are necessary for admission, except that each professor will satisfy himself that the candidate is qualified to be admitted to his course. College students may receive, upon the recommendation of the department, two semester hours for each course they complete with satisfactory examination.

Instruction will be given for the most part by the heads of the various departments. The courses will include the languages, the sciences, mathematics, history, psychology, and education.

A bulletin of the summer session detailing the various courses will be published about March 1, and will be sent on application. For information, address the Director,

C. F. ROSS,
Meadville, Pa.

INDEX.

Page

Admission, Requirements for 30
Adviser System 112
Aid to Students 110
Athletics 116
Board of Trustees 7
Buildings and Grounds 14
Calendar 5
Clubs 113
Committees of the Faculty 12
Courses of Instruction:
- Astronomy 52
- Biology 53
- Chemistry 57
- Economics 61
- Education 63
- English Bible 64
- English Language and Literature 67
- French Language and Literature 69
- Geology 71
- German Language and Literature 73
- Greek Language and Literature 76
- History 79
- Italian Language and Literature 82
- Latin Language and Literature 82
- Mathematics 85
- Philosophy 87
- Physics 91
- Political Science 93
- Public Speaking 94
- Spanish Language and Literature 96
- Surveying and Graphics 97
- Physical Training 98

Degrees 117
Degrees Conferred 1917 130
Electives, List of 101
Expenses 107
Faculty 9
Fees 106
General Purpose 29
Historical Sketch 13
Honor System 113
Hulings Hall 108
Laboratories and Museum 20
Library 26
Location 13
Phi Beta Kappa 132
Prizes 115
Register of Students 118
Required Work 100
Requirements for Graduation 46
Scholarships:
- The Ballantyne Scholarship Fund 110
- High School Scholarships 111
- The Wright Scholarship Fund 110

Special Students 44
Summary of Attendance 129
Summer Session 133

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THE COLLEGE BULLETIN

SERIES XVIII, No. 1
FEBRUARY, 1919

CATALOGUE
1918-1919

R. L.

ALLEGHENY COLLEGE

FOUNDED IN 1815

ONE HUNDRED AND FOURTH YEAR

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1918-1919

MEADVILLE, PA.
1919

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED QUARTERLY
BY THE COLLEGE.

SERIES XVIII, No. 1.
FEBRUARY, 1919.

Entered as second-class matter in the postoffice at Meadville, Pa.

CATALOGUE FOR THE ACADEMIC YEAR 1918-19

AND ANNOUNCEMENTS OF COURSES FOR 1919-20

CONTENTS.

	Page
Calendar	5
Board of Trustees	7
Faculty	11
Committees of the Faculty	14
Historical Sketch	15
Buildings and Grounds	16
Laboratories and Museum	22
Library and Reading Room	27
General Purpose	31
Requirements for Admission	32
Requirements for Graduation	48
Courses of Instruction by Departments	54
List of Electives	101
College Fees	106
Living Expenses	107
Hulings Hall	108
Aid to Students	110
Clubs	113
John C. Sturtevant Memorial Foundation	115
Honors	115
Prizes	116, 138
Athletics	117
Degrees	118
Register of Students	119
Degrees Conferred	136
Award of Honors	137
Phi Beta Kappa	139
The Summer Session	140
Index	141

1919

APRIL

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CALENDAR.

1919.

April 22, Tuesday, 8:00 a. m.—Recitations Resumed.
24, Thursday—Founders' Day.
30, Wednesday—Last Day for Presenting Senior Orations and Theses.

May 10, Saturday—Choice of Senior Speakers.
21-31 Second Term Examinations.
30, Friday—Memorial Day, a Holiday.

June 1, Sunday, 10:45 p. m.—Baccalaureate Sermon by President William H. Crawford.
5:00 p. m.—Vesper Service.
7:45 p. m.—Annual Sermon before the Christian Associations by Mr. Frederick B. Shipp, General Secretary, Y. M. C. A., Pittsburgh.
2-3, Monday and Tuesday—Entrance Examinations.
2, Monday, 2:00 p. m.—Class Day Exercises.
4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.
8:00 p. m.—Commencement Play by the College Dramatic Club.
3, Tuesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.
11:00 a. m—Senior Farewell to Buildings.
11:30 a. m.—Business Meeting of the Alumni Association.
12:45 p. m.—Alumni Campus Luncheon.
3:00 p. m.—Organ Recital by Mr. Charles Heinroth, Carnegie Institute.
4:00 p. m.—War and Peace Pageant.
8:00 p. m.—Phi Beta Kappa Address.
9:15 p. m.—Band Concert and Illumination of Campus.

1919.

June 4, Wednesday, 9:30 a. m.—Commencement Exercises, Address by Hon. William G. Sharp.
1:00 p. m.—President's Luncheon.
6:00 p. m.—Fraternity Dinners.

SUMMER VACATION.

Sept. 23, Tuesday—First Term Begins.
22-23, Monday and Tuesday—Entrance Examinations.
23, Tuesday—Registration of New Students.
24, Wednesday—Registration of Old Students.
25, Thursday, 8:00 a. m.—Recitations Begin.
Nov. 5, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.
27, Thursday—Thanksgiving Day, a Holiday.
Dec. 19, Friday, 12:00 m.—Recitations Close.

1920. CHRISTMAS RECESS.

Jan. 6, Tuesday, 8:00 a. m.—Recitations Resumed.
7, Wednesday—Last Day for Presenting Senior Orations and Theses.
29-Feb. 6, First Term Examinations.
Feb. 6, Friday, 4:00 p. m.—First Term Ends.
10, Tuesday—Second Term Begins. Registrations of Students.
11, Wednesday, 8:00 a. m.—Recitations begin.
12, Thursday—Wakefield Oratorical Contest.
12, Thursday—Day of Prayer for Colleges.
21, Saturday—Washington's Birthday, a Holiday. The College Dinner.
Mar. 3, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.
19, Friday—Philo-Franklin Oratorical Contest.
April 1, Thursday, 12:00 m.—Recitations Close.

SPRING RECESS.

April 13, Tuesday 8:00 a. m.—Recitations Resumed.
24, Saturday—Founders' Day.
28, Wednesday—Last Day for Presenting Senior Orations and Theses.
May 10, Monday—Choice of Senior Speakers.
June 16, Wednesday—Commencement.

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*Deceased.

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Term expires January, 1923

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Instructor in Public Speaking.
DEAN OF WOMEN.

---

* On leave for war service.
† On leave.

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Acting Dean of Women.

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Assistant Professor of Mathematics and Surveying.

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FLORENCE M. STEWARD, A.M.,
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* On leave for war service.

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LUCIA DE TURK, A.B.,
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Graduate Assistant in Biology.

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Registration.

THE PRESIDENT — THE REGISTRAR
PROFESSOR LEE — PROFESSOR HENKE
PROFESSOR WARD

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PROFESSOR ELLIOTT — PROFESSOR LING
PROFESSOR HENKE — PROFESSOR LEAKE
PROFESSOR SCHULTZ

Discipline.

THE PRESIDENT — PROFESSOR ELLIOTT
PROFESSOR LEE

College Organizations.

PROFESSOR AKERS — PROFESSOR ROSS
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Library.

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Men's Dormitories.

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Bureau of Appointments

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PROFESSOR HENKE

DESCRIPTION OF THE COLLEGE.

HISTORICAL SKETCH.

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was the Rev. Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 the Rev. Martin Ruter, of the Pittsburgh Conference of the Methodist Episcopal Church, was elected to the presidency. The institution, while pronouncedly Christian, is conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage, on account of his religious views.

LOCATION.

Allegheny College is located in Meadville, Pennsylvania, on the main lines of the Erie and the Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of about fifteen thousand. It is an old, well-established town, with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town it has few of the disadvantages of city life. It has most

of the advantages of a city, such as paved streets, an effective sewerage system, an abundant supply of wholesome water from driven wells, arc and incandescent electric lights, natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of wild and rugged ravines of exceeding beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of botany and geology.

BUILDINGS AND GROUNDS.

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred fifty feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with cement walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the college.

Bentley Hall bears the name of the Rev. William Bentley, D.D., of Salem, Massachusetts, who gave

his valuable library to the college. The corner stone was laid in 1820. It consists of a central three-story building with tower, and two wings with massive pillars. The building contains the administration offices of the college and recitation and lecture rooms. The third floor is devoted to the halls of the literary societies.

Ruter Hall, which bears the name of the Rev. Martin Ruter, D.D., the second president of the college, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the college. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the department of Mathematics and Surveying. The third floor, occupied by the department of Philosophy and Education, contains a lecture room, two laboratories, two offices, and a store room.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women and accommodates about ninety. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has recently been almost entirely refurnished. The rear wing of the building contains on the fourth floor five large society halls; the first and second floors are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is finished throughout in Georgia pine. It is provided with a full equipment of modern apparatus. In the basement are dressing rooms and baths.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the department of Physics. It contains an amphitheater lecture-room, seating one hundred students, physical laboratories, and a basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, erected in 1896, adjoins the athletic field. It is in the early Italian style of round arched architecture, and is constructed of native stone and brick. The building is T-shaped in plan, the front portion being two stories high, exclusive of the tower. The first floor contains the director's room, locker rooms, and baths. On the second floor there are an assembly room and a committee room, both for general use. The gymnasium floor, which occupies the rear extension, has a clear space of forty-five by eighty feet unobstructed by pillars, the roof being supported by steel trusses. The building is equipped with the appointments of a first-class modern gymnasium.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D. C. Newton, once a student in the college. It is a rock-faced stone building of fine architectural appearance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. It is of rock-

faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburgh, and was built by the late Julius Neef, of Philadelphia. It has three manuals and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Library Building, the gift of an anonymous donor, was completed in 1902. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and the department seminar rooms. The interior appointments of the library are entirely in accord with the artistic character of the building.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., provision has been made for a college commons for young men. The building is constructed of brick, with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the

building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guests' suite. The building not only provides first-class boarding accommodations, and at reasonable rates, but also constitutes a rallying center for the young men of the college. Apart from the dining room and the provisions for a dormitory, there are rooms for the Young Men's Christian Association, which are admirably adapted to their purpose. In addition to the spacious room to be used as assembly, reading, and social room, there are an office for the secretary, a committee room, and a cloak room. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

Alden Hall. Since the burning of this building in 1915 it has been rebuilt and greatly enlarged into a modern two story structure for the department of Biology and Geology. Constructed of gray vitrified brick and terra cotta and roofed with red Spanish tile, it forms an imposing building sixty feet wide by one hundred twenty feet long, with the main entrance on George Street. The spacious halls lined with cases for the display of biological specimens, the rough sand finish of the walls, and the stained-oak wood-work and furnishings produce a most pleasing interior.

The building is divided on the first floor into a large lecture room in the east end, a library, professor's office, two private laboratories, and four advanced laboratories; on the second floor into four large laboratories, two store rooms, an office, and a vivarium. The basement contains six rooms which are used by the

department for aquaria, work shop, store rooms, etc. The building is exceptionally well-lighted and is well-equipped with tables, lockers, apparatus, etc. Electric lights, water, and gas are supplied to all the rooms.

Carnegie Hall of Chemistry. This building is the latest addition to the group of college buildings and is devoted entirely to the use of the department of Chemistry. The erection of the building was made possible by a gift of $40,000 by Mr. Andrew Carnegie. This contribution was made with the understanding, however, that the trustees of the college add $10,000 to this sum for the building and, furthermore, that an additional $20,000 be raised for the purpose of providing a definite income for the maintenance of the building. The trustees not only met the terms of the gift but immediately appropriated a generous sum to be used for the purchase of adequate equipment of the laboratories.

With the completion of this building late in the year 1915, the college came into possession of a $70,000 plant for chemistry, not including the equipment, which will amount to approximately $20,000.

The building is constructed of buff tapestry brick with artificial stone trimmings, in the Italian villa style. The roof is of red Spanish tile. The interior structure is entirely of pressed steel. Owing to the fact that it was deemed advisable for hygienic purposes to substitute heavy four-inch wooden floors for cement, it is necessary to describe the building as of "slow-burning construction."

There are twenty-four rooms in the building. All these rooms have been equipped as offices for members of the instructing staff, or as laboratories for the

general courses in chemistry and for research work. The building is supplied with electricity, both A. C. and D. C., high pressure steam for operating steam-baths, and with that which appears to be a satisfactory system for ventilating hoods and laboratories.

LABORATORIES AND MUSEUM.

The Physical Laboratory. The department of Physics occupies Wilcox Hall of Science. It comprises a large, well-lighted lecture-room; a general laboratory; special laboratories for heat, light, and electricity; two dark rooms; the professor's office; and department library and store room. The lecture-room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratories. The department of Chemistry occupies the building known as Carnegie Hall of Chemistry. It consists of twenty-four rooms. On the first floor are located the offices of the instructing staff; reading room containing the department library; laboratories for electro-chemistry, quantitative analysis, metallurgical chemistry, physical chemistry, water analysis, gas and fuel analysis; and the hygienic laboratory. The balance room, which is provided with suitable piers, is also located on this floor. On the top floor are found separate laboratories for general chemistry, qualitative analysis, spectrum analysis, and organic chemistry; stock room, preparation room, combustion room, and the large lecture room. In the basement, which has been finished as the two upper

floors with the exception of the cement floor, are located the laboratory for agricultural chemistry, small lecture room, stock rooms, and work-shops. The desks in all the laboratories are provided with outlets for compressed air, electricity, A. C. and D. C., as well as gas, water and vacuum pumps. The steam baths, which are supplied with high pressure steam, and the hydrogen sulphide outlets are located in glazed hoods, which are ventilated by forced draughts.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope, the objective of which was a gift of Mr. J. C. McDowell, of Pittsburgh, and was made by Brashear, of Allegheny, Pa. The graduated silver circles for this telescope were given by Mrs. Elizabeth Whiting, of Meadville. A seven and one-half inch instrument, made by Alvin Clark and Son, is also included in the equipment. Other equipment includes a transit, a chronometer, a sextant, and a sidereal clock. The clock is the gift of the children of Milton B. Goff, LL. D., in memory of their father, an alumnus and former professor of mathematics in the college. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by George N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute

field work in astronomy which is of value to engineers. A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock complete the new equipment, which will enable the department to offer to the student work that will be comparable with other observatories having a glass of like magnitude.

Surveying Apparatus. In Mathematics and Surveying all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in these subjects.

The Biological Laboratories, formerly located in restricted quarters on the third floor of Ruter Hall, now occupy, together with Geology, the entire building of Alden Hall, which has been rebuilt and greatly enlarged. This change has greatly increased the number of laboratories and has materially added to the efficiency of the department.

The laboratory for general biology is on the second floor; it is well lighted by north windows and is well equipped with modern laboratory tables, individual lockers, compound microscopes, and other apparatus necessary to accommodate the large number of students who elect this work. Adjoining this general laboratory is a laboratory for advanced zoology, in which hundreds of specimens illustrating the various orders of animals are displayed. On the south side on this floor is the vivarium, in which are still-water aquaria and insect cages; in the northwest corner is a large laboratory for advanced botany and for economic biology; this laboratory contains the herbaria of the local flora, including fungi, mosses, ferns, and seed

plants; also hundreds of microscopic slides for use in these courses.

On the first floor is the large lecture hall supplied with student chairs, a balopticon with several hundred slides, and numerous wall charts; adjoining this room are the professor's private laboratory and a preparator's room in which demonstration material is prepared and stored. The bacteriological laboratory on this floor is equipped with lockers, two steam-pressure autoclaves, a multi-compartment, electrically heated incubator, hot-air sterilizers, microscopes, etc. Adjoining this room is the laboratory for histology and embryology supplied with microtomes, multi-compartment paraffin oven, incubators, compound microscopes with oil-immersion lenses, and other necessary apparatus. The laboratory for plant physiology is well equipped with apparatus for studying soils, for seed testing, etc. Opening from this room are a conservatory for growing plants and also a dark room for photographic and experimental purposes. A library with the departmental books and magazines, an advanced bacteriological laboratory, professor's office, and a store room complete the rooms of the first floor.

In the halls are displayed numerous cases of birds, insects, skeletons, dissected and injected specimens, models, and illustrative and museum material of various kinds. The laboratories throughout are equipped with microscopes and the necessary apparatus to carry on the work of the various courses offered by the department. The tables are supplied with electric desk lamps for use on cloudy days.

In the basement is a room with running-water aquaria for fish and amphibians, and several cages for mice used for demonstration work in heredity; a work

shop and store rooms are also in the basement. In the rear of the building is a plot of ground which is to be developed into a botanical garden.

The Geological Laboratory is on the second floor of Alden Hall. It contains laboratory tables equipped for blowpipe work and provided with lock drawers for each student. The room is large and well lighted, and is supplied with electricity, gas, running water, and cases for maps, minerals, rocks, and reagents. Other equipment for geological and mineralogical work consists of several hundred topographic maps and geologic folios, several thousand minerals and rocks for both demonstration and working collections, crystal models, polarizing microscope, rock slides, a lantern with numerous slides, and a collection of fossils arranged in order of the geologic periods. This collection has been augmented materially by the gift of fossils from Montana by Mr. Walter M. Small and by the gift and exchange of fossils by others.

A large room in the basement is used for the preparation and storage of minerals, rocks, and fossils.

The geological library consisting of several hundred volumes of government, state, and other publications is in the department library on the first floor of Alden Hall.

The Psychological Laboratory occupies four rooms on the third floor of Ruter Hall, and several additional rooms are at the disposal of students for experimental work. It is equipped with tables and the apparatus required for elementary experiments. New apparatus will be added as occasion arises.

The Natural History Collections are placed in the

museum on the first floor of Ruter Hall and in Alden Hall. The geological and mineralogical collections are especially noteworthy and contain many valuable specimens, including several type forms. The more than eight thousand mineral specimens form an excellent collection and serve as a splendid basis for the course in mineralogy. The geological collections include the Smithsonian set of rocks and rock-forming minerals, besides numerous other specimens; while the paleontological collection includes the Ward casts and several original fossil forms. A collection of fossils, both local and from the glacial drift, has been presented to the college by Mr. William Millward.

The biological collections are also important. The herbarium has been greatly increased so that it includes most of the local flora, which is rich and varied and furnishes an abundance of material for the courses in Botany. The zoological collection consists of several thousand specimens. It includes an excellent collection of shells, over two hundred mounted birds, several cases of economic insects, mounted skeletons, and numerous jars of prepared and injected specimens illustrating the various orders of animals.

The museum is open to the public every Saturday from ten-thirty until noon while the college is in session. At other times visitors are admitted on application to the curator.

THE LIBRARY.

The Library contains 46,000 printed productions, of which 34,000 are bound volumes. The remainder is made up of unbound periodicals and classified pamphlets. The additions by gift and purchase during

1917-18 were more than 1,400 volumes. A large number of reference books of a general and technical nature have been recently added to the good collection in the reference room, where 2,000 volumes of books "reserved" for use in the various departments are shelved with the dictionaries, encyclopedias, and general reference works. A dictionary card catalogue and periodical and government document indexes make the general resources and the latest periodical information easily available. Especial attention has been given to completing the bound sets of the most valuable periodicals. The departments of Astronomy, Biology, Chemistry, Geology, and Physics have their several department libraries in the buildings where the work is done, and additions are made to these collections each year. The Library possesses many rare old books from the Winthrop, Thomas, and Bentley foundations and a number of valuable old Bibles.

The following moneys have been given to create funds for the support of the Library:

Andrew Carnegie Fund.....$25,000
The income of this fund is to be used for general maintenance.

Lucy Prindle Foote Fund.....$ 5,000
A gift of Mrs. Lucy P. Foote, of Batavia, Ill., the income to be used for the purchase of books.

William Davis Memorial Fund.....$ 5,000
A gift of Mr. Henry L. Davis, of Philadelphia, Pa., in memory of his father, Mr. William Davis, the income to be used for the purchase of books.

Rev. Lynn Olin Mead Fund.....$ 500

A gift of Mrs. Martha S. Mead in memory of her late husband, the Rev. Lynn Olin Mead, the income to be used for the purchase of books.

The Library is housed in a modern building with large reading and study rooms, fitted with electric lights and steam heat. The administration aims to make the Library not only an auxiliary to the class instruction but also the center of the intellectual life of the college. The classical and literary clubs have headquarters in the building, and rooms are set aside for advanced classes studying along special lines; the rules are such as will allow the widest use of the books with only such necessary restrictions as will secure the greatest good to the greatest number. The reading room regularly receives over one hundred periodicals, including technical department journals, city dailies, and the best weeklies, both religious and secular. In addition to a very comprehensive list of the best home and foreign periodicals, the Campus and the Literary Monthly maintain an exchange table of college publications.

The Library is a government depository and also receives the state publications. Each department has an annual appropriation for the purchase of the latest technical and reference works. The access to such a wide range of books and periodicals, the training in the use of catalogues, bibliographies, reference works, and the wide range of technical and general periodical literature available are of great advantage to the student. A book service is maintained with the Carnegie Library of Pittsburgh by which almost any book not available here may be secured quickly and

at slight expense to the student. Exchange relations are also maintained with several other libraries. The Meadville Theological School extends library privileges to this college, and the students have access to the Meadville Public Library, containing over 12,000 catalogued volumes.

The Library is open during the college year from 9 a. m. to 5.30 p. m. and five evenings a week.

GENERAL PURPOSE.

This institution is a college, not a university. It does not undertake to fit the student to enter a profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curricula are based. Under the various groups about three-fourths of the subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered, enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for a profession.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. A college training does not teach a man how to do business successfully, but it does prepare him to do business rapidly, and to attain large success, if he has the requisite talent.

REQUIREMENTS FOR ADMISSION.

The requirements for admission are stated in terms of units. *A unit is defined as a course of study that has been pursued for a school year of at least thirty-six weeks, with four or five periods per week of not less than forty minutes each. However, not less than one hundred twenty periods of sixty minutes each or their equivalent shall be counted a unit. But it is understood that in the major subjects for entrance five periods a week will be required.*

No science subject may be credited for entrance unless accompanied by satisfactory evidence of laboratory or field work. Exceptions may be made in the case of physiology.

Subjects accepted for entrance:

	Minimum.	Maximum.
English	3	4
Mathematics	2½	4
Foreign Language	4	7
Latin		
Greek		
French		
German		

Not less than two units in any language will be counted, unless continued further in college.

History	1	4
Medieval and Modern	..	1
Ancient	..	1

English	½	1
United States	½	1
Civics	½	1
Drawing		
Free Hand	..	½
Mechanical	..	½
Science	1	4
Biology	½	1½
Chemistry	..	1
Physics	..	1
Physiography	½	1
Physiology	½	..
Geology	..	½
General Science	½	1

Not more than one unit of Biology may consist of General Zoology or Botany.

From the preceding list of units 15 must be offered for entrance to the freshman class. Of these, 11½ units are absolutely required and 3½ may be elected from any of the units in the foregoing list.

The 11½ required units are as follows:

English	3
*Mathematics	2½
Science	1
History	1
Foreign Language	4

For admission to A. B. Groups I and II, these 4 units will be in Latin; to Groups III, IV, and V, two

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* Students may be admitted with 2 units of Mathematics, provided they offer 15 units all told; but they will be required to complete in college a half year of Mathematics in addition to the regular Science requirement.

units must be in Latin; to B. S. Groups I-IV, there is no restriction concerning Latin.

The various groups are described on pp. 48-53.

For conditional admission in the aforementioned Latin prerequisite see page 84.

DESCRIPTION OF UNIT REQUIREMENTS.

ENGLISH.—The following is a definition of units one, two, three, and four, respectively, that may be offered as entrance credits in English:

(Unit one) Composition and Rhetoric.

(Units two and three) Selections from the list of required readings below.

(Unit four) A history of English or American literature, with additional readings from the English classics.

The study of English in school has two main objects: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation.

Grammar and Composition. The first object requires instruction in grammar and composition. English grammar should ordinarily be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, easy exposition, and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English

in his recitations and various exercises, whether oral or written.

Literature. The second object is sought by means of two lists of books headed respectively Reading and Study, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

(A.) Reading. The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by giving him a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as otherwise provided under Group 1.

GROUP I. Classics in Translation. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther. The Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII. The Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI. The Aeneid. The Odyssey, Iliad and Aeneid should be read in English translations of recognized literary excellence. For any selection from this group a selection from any other group may be substituted.

GROUP II. Shakespeare. Midsummer Night's Dream, Merchant of Venice, As You Like It, Twelfth Night, The Tempest, Romeo and Juliet, King John, Richard II, Richard III, Henry V, Coriolanus, *Julius Cæsar, *Macbeth, *Hamlet.

* If not chosen for study under B.

GROUP III. Prose Fiction. Malory's Morte d'Arthur (about 100 pages); Bunyan's Pilgrim's Progress, Part I; Swift's Gulliver's Travels (voyages to Lilliput and to Brobingnag); Defoe's Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; Frances Burney's Evelina; Scott's novels, any one; Jane Austen's novels, any one; Marie Edgeworth's Castle Rackrent, or The Absentee; Dicken's novels, any one; Thackeray's novels, any one; George Eliot's novels, any one; Mrs. Gaskell's Cranford; Kingsley's Westward Ho! or Hereward the Wake; Reade's The Cloister and the Hearth; Blackmore's Lorna Doone; Hughes' Tom Brown's Schooldays; Stevenson's Treasure Island, or Kidnapped, or Master of Ballantrae; Cooper's novels, any one; Poe, selected tales; Hawthorne's The House of the Seven Gables, or Twice Told Tales, or Mosses from an Old Manse; a collection of short stories by various standard writers.

GROUP IV. Essays, Biography, etc. Addison and Steele's The Sir Roger de Coverley Papers, or selections from the Tatler and Spectator (about 200 pages); Boswell, selections from the Life of Johnson (about 200 pages); Franklin's Autobiography; Irving, selections from the Sketch Book (about 200 pages), or Life of Goldsmith; Southey's Life of Nelson; Lamb, selections from the Essays of Elia (about 100 pages); Lockhart, selections from the Life of Scott (about 200 pages); Thackeray's Lectures on Swift, Addison, and Steele in the English Humorists; Macaulay, any one of the following essays: Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederick the Great, Madame d'Arblay; Trevelyan, selections from the Life of Macaulay (about 200 pages); Ruskin's Sesame and Lilies, or selections (about 150 pages); Dana's Two Years Before the Mast; Lincoln, selections, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman's The Oregon Trail; Thoreau's Walden; Lowell's Selected Essays (about 150 pages); Holmes' The Autocrat of the Breakfast Table; Stevenson's An Inland Voyage and Travels with a Donkey; Huxley's Autobiography and selections from Lay Sermons, including the addresses on improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; a collection of essays by Bacon,

Lamb, DeQuincey, Hazlitt, Emerson, and later writers; a collection of letters by various standard writers.

GROUP V. Poetry. Palgrave's Golden Treasury (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley (if not chosen for study under B); Goldsmith's The Traveler, and the Deserted Village; Pope's The Rape of the Lock; a collection of English and Scottish ballads, as, for example, some Robin Hood Ballads, The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens, and a selection from later ballads; Coleridge's The Ancient Mariner, Christabel, and Kubla Khan; Byron's Childe Harold, Canto III or IV, and The Prisoner of Chillon; Scott's The Lady of the Lake, or Marmion; Macaulay's The Lays of Ancient Rome, The Battle of Naseby, The Armada, Ivry; Tennyson's The Princess, or Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa, Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, and The Forsaken Merman; selection from American poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

(B.) Study. This part of the requirements is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I. Drama. Shakespeare's Julius Cæsar, Macbeth, Hamlet.

GROUP II. Poetry. Milton's L'Allegro, Il Penseroso, and either Comus or Lycidas; Tennyson's The Coming of Arthur, The Holy Grail, and The Passing of Arthur; the selections from Wordsworth, Keats, and Shelley in Book IV of Palgrave's Golden Treasury (First Series).

GROUP III. Oratory. Burke's Speech on Conciliation with America; Macaulay's Speech on Copyright and Lincoln's Speech at Cooper Union; Washington's Farewell Address and Webster's First Bunker Hill Oration.

GROUP IV. Essays. Carlyle's Essay on Burns, with a selection from Burns' Poems; Macaulay's Life of Johnson; Emerson's Essay on Manners.

Examination. However accurate in subject-matter, no paper will be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examination will be divided into two parts, one of which will be on grammar and composition, and the other on literature.

In grammar and composition, the candidate may be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors. The main test in composition will consist of one or more essays, developing a theme through several paragraphs; the subjects will be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner will provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He will not be expected to write more than four hundred words per hour.

The examination in literature will include:

(A.) General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under (A.) Reading, above. The candidate will be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but this list will not be made the basis of detailed questions.

(B.) A test on the books prescribed for study, which will consist of questions upon their content, form, and structure,

and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

MATHEMATICS.—Elementary Algebra. (One unit or one and one-half units.) The work in this subject should include the following: fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

A maximum of one and one-half units may be given when the time spent in preparing to meet this requirement be at least a year and a half. It is suggested that the work of the last half-year should be done late in the preparatory school course to insure a distinct and ready articulation with the required work of the freshman year in college. It is desirable that the student should come to his college work with well formed habits of neatness and accuracy, and that he have a ready knowledge of so much mathematics as he may have studied.

Plane Geometry. (One unit.) The general properties of rectilinear figures, similar polygons, and areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

Solid Geometry. (One-half unit.) The relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

Advanced Algebra. (One-half unit.) A somewhat more extended treatment in review of the important topics of elementary algebra; such as fractional and negative exponents, radicals, factoring, the theory of quadratic equations (including maxima and minima, simultaneous quadratic equations, ratio, proportion, the progressions, and the binomial theorem for positive integral exponents). In addition to these, the following topics should be included: permutations and com-

binations, undetermined coefficients, partial fractions, logarithms, theory of equations, including Horner's method, and the solution of numerical equations of higher degree.

Plane Trigonometry. (One-half unit.) The definitions and relations of the six trigonometric functions as ratios, proofs of formulas, especially those for the sine, cosine and tangent of the sum or difference of two angles, the relation between functions of an angle and those of double angles and half angles, inverse functions, and the solution of right and oblique triangles with applications.

LATIN.—The following requirements, as proposed by the Commission on College Entrance Requirements in Latin, have been adopted by the college:

I. AMOUNT AND RANGE OF THE READING REQUIRED.

1. The Latin reading required of candidates for admission to college, without regard to the prescription of particular authors and works, shall not be less in amount than Cæsar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, Aeneid, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and De Senectute) and Sallust (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Aeneid) and Ovid (Metamorphoses, Fasti, and Tristia).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS.

1. **Translation at Sight.** Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. **Prescribed Readings.** Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias; and Vergil, Aeneid, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and

prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. **Grammar and Composition.** The examination in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and ordinary syntax and vocabulary of the prose authors read in the school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

The credits given are as follows: elementary Latin book, such as Collar and Daniell or Bennett, including the reading of at least fifteen pages of easy connected prose, such as Viri Romæ, one unit; Cæsar with composition, one unit; Cicero with composition, one unit; Vergil, one unit.

GREEK.—(One unit.) First Greek book and at least six chapters of Book I of Xenophon's Anabasis.

(One unit.) Xenophon's Anabasis through Book IV. Xenophon's Anabasis, Books, V, VI, and VII, of Xenophon's Hellenika, Books I and II, or twelve hundred lines of Homer. Prose composition based on the texts read.

(One unit.) Homer's Iliad or Odyssey, about three thousand lines. Thorough knowledge of poetic forms and prosody. About thirty pages of Attic prose with composition based thereon.

Throughout the work in Greek, emphasis should be laid on accurate knowledge of forms and the ordinary rules of syntax, on the ability to read Greek aloud correctly and expressively, and on the ability to write rapidly and correctly in Greek simple English sentences based on the texts read.

Students expecting to enter Greek I in college should offer at least two units of entrance Greek. Students without Greek for entrance may begin the subject in Greek A and in one year be prepared to enter Greek I.

GERMAN.—(One unit.) The first year's work should comprise: careful drill in pronunciation, dictation, memorizing of easy colloquial sentences, drill in the rudiments of grammar, i. e., the inflection of nouns, adjectives, pronouns, weak verbs, and the more usual strong verbs; the use of prepositions; the simplest rules of syntax and word order; simple exercises in conversation; and the reading of from seventy to one hundred pages of a graduated text from a reader or from editions of easy texts.

(One unit.) The second year's work should comprise: the reading of one hundred fifty to two hundred pages of literature in the form of easy stories and plays; a further study of syntax; conversation based on the text read; practice in the translation into German of easy variations upon the matter read, and also in off-hand reproduction, sometimes orally and sometimes in writing, of the substance of selected passages.

(One unit.) The work of the third year includes, in addition to the courses above, the reading of about four hundred pages of moderately difficult prose or poetry, with constant practice in giving, sometimes orally, sometimes in writing, abstracts, paraphrases, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of the article, and the cases, the uses of the subjunctive and the infinitive, complex sentence structure, and the uses of modal auxiliaries and participial constructions.

(One unit.) The fourth year of the study should be devoted to such works as Goethe's Iphigenie, Tasso, Hermann und Dorothea, Schiller's Wallenstein, standard prose of the grade represented by Freytag or Keller, some consideration of the chief lyric poets, prose composition, and some practice in theme writing.

FRENCH.—(One unit.) First year French should comprise the following: (1) careful drill in pronunciation, which should be re-enforced by dictation and conversation in the class room; (2) study of grammar, including the more unusual irregular verbs, such as the material found in Part I of Fraser and Squair's French Grammar; (3) regular practice in putting simple idiomatic sentences into French; (4) reading of about

two hundred duodecimo pages of easy standard French, such as is to be found in the more popular French Readers, Malot's Sans Famille, Bruno's Tour de la France, the stories of Erckmann-Chatrian, etc.

(One unit.) Second year French should include: (1) continued work in dictation; (2) memorizing of short poems; (3) further practice of turning English into idiomatic French, (4) more detailed study of grammar, such as is contained in Fraser and Squair, Part II; (5) reading of some three hundred pages of standard French of gradually increasing difficulty, such as the stories and plays of About, Daudet, Labiche, Mérimée, Sand, Scribe, etc.

(One unit.) Third year French should comprise the reading of some five hundred pages of more difficult French, including some masterpieces of French drama. Moreover, the student should be able to reproduce and paraphrase into idiomatic French parts of the works read. Texts should be selected from the works of Balzac, Beaumarchais, Corneille, Hugo, Marivaux, Molière, Musset, Racine, Vigny, Voltaire, etc.

ANCIENT HISTORY.—(One unit.) To the fall of the Roman Empire. Texts—Botsford, West, Myers.

MEDIEVAL AND MODERN.—(One unit.) Texts—Myers, Robinson.

ENGLISH HISTORY.—(One-half or one unit.) Texts—Cheyney, Larned.

AMERICAN HISTORY.—(One-half or one unit.) Texts—Channing, Fiske, McMaster.

CIVICS.—(One-half unit.) Texts—Fiske, Hart.

FREE HAND DRAWING.—(One-half unit.) The candidate must possess the ability to sketch, both in outline and with shading, simple objects, such as a house, a small piece of machinery, a simple landscape, a group of geometrical figures, or an architectural ornament.

Certificates covering the above work, together with at least twenty specimen drawings, will be accepted.

MECHANICAL DRAWING.—(One-half unit.) The candidate must be able to make projections in plan and elevation of geometrical figures, and to prepare working drawings of simple architectural and mechanical subjects.

Certificates covering this work, together with at least twenty plates, illustrating the elements of descriptive geometry or of simple machine parts, will be accepted.

BIOLOGY.—Courses in zoology, botany, physiology and hygiene will also be accepted under this head provided they meet the requirements here given. Satisfactory outlines of courses are given in the syllabus published by the New York State Educational Department.

a. (One unit.) A course in general biology extending throughout a year which shows the fundamental relationship between the animal and plant kingdoms and shows man's place in nature. A part of this course may deal with human physiology. The course must be accompanied with laboratory work and the student, if required to do so, must be prepared to submit a laboratory note-book properly certified.

b. (One-half to one unit.) Courses in general zoology or general botany of at least one-half year in length. It is recommended that these be courses which deal with habits and ecological relationships as well as structure. Forms of animals or plants of local or of economic importance should be used as type forms as far as possible. Courses in botany dealing solely with the flowering plants or courses in zoology dealing solely with birds or insects will not be accepted. Laboratory work will be required in all cases and the student must be prepared to submit a properly certified note-book.

c. (One-half unit.) Physiology and Hygiene. This must be a one-half year course, and it is recommended that laboratory work be done with the course.

GEOLOGY.—(One-half unit.) The materials of the earth, the work of the atmosphere, ground-water, running water, snow and ice, the oceans and lakes, vulcanism and diastrophism; rock structures; the history of the geologic periods from the Archæozoic to the present. Laboratory and field work are required, for which a note-book is to be submitted.

PHYSIOGRAPHY.—(One-half unit.) The origin and significance of the great relief features of the earth, and the topographic forms of the land; the earth as a planet; the atmosphere; the climate; weather predictions. Appropriate field and laboratory work must accompany the study of the text. Suitable text books are Salisbury's Briefer Course in Physiography, or Tarr's Physical Geography.

CHEMISTRY.—(One unit.) The candidate's preparation in chemistry should include: (a) The study of at least one standard text-book on general chemistry, to the end that the pupil may obtain a comprehensive view of the more important facts of elementary chemistry. (b) Individual laboratory note-books, certified by the candidate's instructor, must be presented.

PHYSICS.—(One unit.) The amount and extent of the class work required for entrance in physics may be indicated by such texts as Millikan and Gale's First Course, Hoadley's Elements, or Carhart & Chute's High School Physics. In laboratory the work should include at least thirty quantitative experiments supplementing the class work, performed by the student, and recorded in a carefully prepared note-book.

SPECIAL STUDENTS.

Persons desiring to pursue studies in the college are, as a rule, required to be prepared to enter the freshman class as candidates for one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

ENTRANCE EXAMINATIONS.

Examinations for admission are held on Monday

and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the first term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in all subjects.

ADMISSION BY CERTIFICATE.

In place of examinations in studies required for admission to college, certificates will be accepted from approved first class high schools having a regular four years' course, in case of students regularly graduating in such a course. Certificates will also be accepted in case of graduates of a three years' high school course, provided they pass entrance examinations in not less than three units additional to their certificate.

Certificates will not be accepted in the cases of students who are not graduates of the school from which the certificates are presented. *Students entering by certificate are considered as on trial until the completion of the mid-year examination, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.*

In all cases an examination in English is required, adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to have their schools placed on the approved list are invited to address the Registrar of the college.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be

made out on special blanks, which will be sent on application.

The applicant for admission should bring with him all laboratory note-books, exercise books, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismissal will be required from those who have been matriculated at other institutions.

Requirements for Graduation to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

	First Term.	Second Term.
English I	3	3
English Bible I	2	2
*Mathematics or Science	4	4

One course from each of two of the following departments: Latin, Greek, French, Political Science.

These two courses will count as part of the student's Group Electives as detailed on pp. 49, 50.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For Group I he should choose Latin and Greek.

For Group II he should choose Latin or Greek, and French.

For Group III he should choose French and one other.

For Group IV he may choose any two of the subjects.

For Group V he should choose a language course and one in the history department.

Not less than fifteen and not more than sixteen hours are to be taken weekly.

*Candidates for the degree of Bachelor of Arts are required to elect fourteen term hours from the following courses: Astronomy I, Biology I, Chemistry I, Geology I, Mathematics I, Physics I, so that two departments are represented.

SOPHOMORE YEAR.

	First Term.	Second Term.
Mathematics or Science	4 or 3	4 or 3
History or Political Science	3	3

Group Electives [see below] to make not less than fifteen and not more than seventeen hours weekly.

JUNIOR YEAR.

	First Term.	Second Term.
Philosophy II, V	3	3

This subject may be taken in the sophomore year if the student is to do his major work in philosophy.

Group Electives and Free Electives, to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR.

A thesis in the first term and an oration in the second term. See page 100.

Group Electives and Free Electives chosen from the list on pages 101-105 to make a total for the course of not less than one hundred twenty term hours.

GROUP ELECTIVES.

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of A. B. Groups I, II, III, IV, V, in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 112.

A. B. Group I.

1. In one department, Greek or Latin.....20 hrs.
2. In a second department, Latin or Greek.....14 hrs.
3. In a third department, English, History, Philosophy, or French .....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, French, or Spanish..... 6 hrs.

A. B. Group II.

1. In one department, Latin or Greek.....20 hrs.
2. In a second department, French.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, Greek, or French.....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, French, or Spanish..... 6 hrs.

A. B. Group III.

1. In one department, French.....20 hrs.
2. In a second department, English, History, Philosophy, Latin, or Greek.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, or Greek.....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, or Spanish..... 6 hrs.

Students who present for admission less than two units in a modern language must, if this Group is chosen, take not less than eight hours additional to the above requirements, in the language chosen for the major subject.

A. B. Group IV.

1. In one department, English or Philosophy.....20 hrs.
2. In a second department, English, History, or Philosophy .....14 hrs.
3. In a third department, Latin, Greek, or French....14 hrs.
4. In a fourth department, Latin, Greek, French, or Spanish ..... 6 hrs.

A. B. Group V.

1. In one department, History or Economics.....20 hrs.
2. In a second department, Economics, English, History, or Philosophy.....14 hrs.
3. In a third department, Latin, Greek, or French....14 hrs.
4. In a fourth department, Latin, Greek, French, or Spanish ..... 6 hrs.

Requirements for Graduation to the Degree of Bachelor of Science.

FRESHMAN YEAR.

	First Term.	Second Term.
English I	3	3
English Bible I	1	1
Foreign Language: French, Latin, or Greek	4	4
Mathematics I	4	4
Science—Biology, Chemistry, Physics, or Surveying	4	4

This course will count as part of the student's Group Electives as detailed on p. 51.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For B. S. Group I, he should choose Biology.

For B. S. Group II, he should choose Chemistry.

For B. S. Group III, he should choose Physics.

For B. S. Group IV, he should choose Mathematics or Surveying.

SOPHOMORE YEAR.

	First Term.	Second Term.
*History or Political Science	3	3
Foreign Language, continuing the language taken in the freshman year	4 or 3	4 or 3

Group Electives [see page 53] to make not less than fifteen and not more than seventeen hours weekly.

*This work may be postponed to the junior year in case it is necessary for the student to continue a subject begun in the freshman year.

JUNIOR YEAR.

	First Term.	Second Term.
Philosophy II, V	3	3
Second Foreign Language, including Spanish	4 or 3	4 or 3

Group Electives and Free Electives to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR.

A thesis in the first term and an oration or a thesis in the second term. See page 100.

Group Electives and Free Electives chosen from the list on pages 101-105 to make a total for the course of not less than one hundred twenty term hours.

GROUP ELECTIVES.

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of B. S. Groups I, II, III, or IV, in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 112.

B. S. Group I.

1. Biology ..... 20 hrs.
2. Chemistry ..... 14 hrs.
3. Physics ..... 8 hrs.

B. S. Group II.

1. Chemistry ..... 20 hrs.
2. Biology or Physics ..... 14 hrs.
3. Biology or Mathematics or Physics ..... 8 hrs.

B. S. Group III.

1. Physics ..... 20 hrs.
2. Chemistry ..... 14 hrs.
3. Mathematics ..... 8 hrs.

B. S. Group IV.

1. Mathematics or Surveying ..... 20 hrs.
2. Physics or Mathematics ..... 14 hrs.
3. Biology or Chemistry ..... 8 hrs.

COURSE OF INSTRUCTION
BY DEPARTMENTS.

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as especially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ASTRONOMY.

The courses in Astronomy aim to give the student a comprehensive view of the science and to acquaint him with the theories of the development of the solar system and the structure of the universe. In all courses the student is required to study the members of the solar system, star clusters, nebulae, and other celestial objects with the aid of the instruments in the Newton Observatory.

COURSE I—General Astronomy. A study of the members of the solar system, the laws that govern their motions, and other phenomena. Also a study of the stars and nebulæ, with a discussion of the laws and theories of their relations. The important applications of astronomy to time determination, navigation, etc., find their places in this course. Finally the theories of cosmogony are outlined and the evidence that the heavenly bodies give in support of these theories is discussed. The student will be required to make systematic observations and to perform appropriate experiments in connection with the course. Open to students who have had a course

in High School Physics in addition to Mathematics I, or to those who have completed Physics I.

Throughout the year, three hours.

COURSE II—Field Astronomy. Determination of time, latitude, and longitude, with the transit, sextant, and chronometer. Open to those who have completed Trigonometry and Astronomy I.

Second term, two hours.

Given in 1920-21.

COURSE III—History of Astronomy. A course tracing the progress of the science from early times, including the work of the celebrated pioneers, down to the present day. Open to students who have completed Course I.

Second term, two hours.

Given in 1919-20.

COURSE IV—Spherical and Practical Astronomy. For advanced students. The theory of observation and instruments. The theory and practice of determination of time, latitude, and longitude. Eclipses and occultations. Double star observations. Positions of planets and comets with the nine-inch equatorial. Open to students who have completed Mathematics II, Physics I, and Astronomy I, and may be begun either in first or second term.

BIOLOGY.

The courses in this department are designed to acquaint the student with the great world of life in its different forms, functions, and uses. Considerable attention is given to details in observation and to a comparative study of forms, thereby training the student to observe accurately and to think clearly and logically. The economic aspects of the subject are considered with the view of presenting some of the great problems in the applied biological sciences.

A Biological Club exists for advanced students, in

which reviews of current biological literature or of research work of the student are presented.

COURSE I—General Biology. This course aims to give the fundamentals of the science considering life in its broadest aspects; various types are studied with the view of illustrating the various forms and functions of life and of showing the general principles of organic evolution. The first term is zoological in character, the second term botanical. The field work consists in the collection and identification of some group of animals or plants; in the laboratory a series of type forms is studied. Lectures and recitations two or three hours a week, laboratory and field work two hours and a half a week.

Throughout the year, four hours.

COURSE II—Principles of Biology. A course which deals with evolution, natural selection, mutation, genetics, including Mendel's Law, inheritance of acquired characters, eugenics, and the physical basis of life and heredity as found in the cell, together with the general facts and theories of development. Lectures and assigned readings. Open to all college students above freshman rank.

Throughout the year, one hour.

COURSE III—Advanced Botany. The structure and functions of the various organs of the seed plants are considered the first term, including the study of prepared material and experimental work on living plants in photosynthesis, transpiration, respiration, growth, and reactions to various stimuli. The second term's work is largely systematic and aims to acquaint the student with the local flora, including the algæ, fungi, mosses, ferns, and seed plants. Field work forms an important feature of the course. Lectures and recitations two hours a week, laboratory and field work four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE IV—Advanced Zoology. The external and internal morphology of a series of animals illustrating the various

classes are studied. The first term is devoted to the invertebrates, the second term to the vertebrates, including the dissection of various forms; the work of the first term is extensive, that of the second term intensive and largely comparative. Lectures and recitations two hours a week, laboratory work four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE V—Economic Botany. This course is designed to give the student a knowledge of the history, distribution, methods of culture, and the uses of the various economic plants, such as those furnishing foods, fibres, flowers, drugs, timbers, etc. The cause and treatment of the diseases of the economic plants form an important feature of the work. Lectures and recitations two hours a week; laboratory work two hours a week. Open to students who have completed Course I, or its equivalent.

First term, three hours.

COURSE VI—Economic Zoology. A course corresponding to Course V, but dealing with economic animals. The major part of the time is spent in the study of insects and birds. Considerable attention is given to the identification and to the life histories of those insects which cause damage to cultivated crops. Lectures and recitations two hours a week; field and laboratory work two hours a week. Open to students who have completed Course I, or its equivalent.

Second term, three hours.

COURSE VII—Bacteriology. The aim of this course is to acquaint the student with the general distribution and activities of the micro-organisms. The laboratory work is designed to give the student training in bacteriological technique by growing some type forms and studying their morphology and physiology. A quantitative and a qualitative analysis for micro-organisms is made of air, soil, and various food products, including water, milk, butter, etc.; the disease-producing micro-organisms as well as those which cause fermentation and decay are studied. Lectures and recitations one hour a week;

laboratory work four hours a week. Open to students who have completed Course I.

Throughout the year, three hours.

BIOLOGY VIII—Human Anatomy and Physiology. A course which treats of the various structures and functions of the human body, including digestion, assimilation, excretion, irritability, etc. Lectures and recitations two hours each week; laboratory work two hours a week. Open to students who have completed Course 1.

First term, three hours.

COURSE IX—Cytology and Histology. A course which treats of the structure of the cell and its various modifications into tissues; the laboratory work is designed to give the student training in technique and consists in the fixing, imbedding, sectioning, staining and mounting of various tissues, mostly from animals. Lectures and recitations two hours a week; laboratory work four hours a week. Open to students who have completed Course I, and preferably Course IV.

First term, four hours.

Course X—Vertebrate Embryology. This course includes the study of the development of the chick and of a mammal from the time of fertilization of the egg until fully formed. Preparation of microscopic slides and the study of the various stages constitute the laboratory work. This course and Courses IV and IX are recommended for those who anticipate the study of medicine. Lectures and recitations two hours a week; laboratory work four hours a week. Open to students who have completed Course IX.

Second term, four hours.

BIOLOGY XI. Sanitation and Hygiene. This course deals with those things which affect both public and personal health; foods, including their relative values and their sanitary importance, the causes and prevention of disease, and the general case of the body are topics considered. Lectures and assigned readings one hour a week. Open to all college students.

Throughout the year, one hour.

COURSE XII—Special Biology. This course is designed for students who are desirous of pursuing some line of biological work not included in the above courses. Open to students only by permission of the head of the department.

Hours to be arranged.

CHEMISTRY.

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. The non-metals, metalloids and metals, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives special attention, as also do the elementary principles of chemical dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text-books: Lee's Text-book of Experimental Chemistry and Mellor's Modern Inorganic Chemistry. Lectures and recitations two or three hours a week. Laboratory work two to four hours a week.

Throughout the year, four hours.

COURSE II—Analytical Chemistry.—Qualitative Analysis.— Bases and Acids. The student is required to work through a system of preliminary analytical reactions. The more intimate knowledge of the elements and their compounds thus

gained enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc., receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the manual. Text-book: Lee's Qualitative Chemical Analysis. The work is arranged so as to include a brief course in Spectrum Analysis. Laboratory and lectures six hours a week throughout the year. Open to those who have completed Course I, or its equivalent.

Throughout the year, three hours.

COURSE III—Analytical Chemistry.—Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric, physico-chemical, and volumetric processes as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights and all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirement.

Electro-Chemical Analysis.—A brief course in electrolytic methods of analysis is included in this year's work.

Laboratory work, eight hours per week. All laboratory work is supplemented by lectures. Open to those who have completed Course II, or its equivalent.

Throughout the year, four hours.

COURSE IV—Gas and Fuel Analysis. This course is offered because of the analyst's frequent need of this kind of training. It deals with the laws of gases, and with the various methods of determining the composition and calorific value of various gaseous, liquid and solid fuels. Lectures and laboratory work four hours a week.

Throughout the year, two hours.

COURSE V—Organic Chemistry. The work of this course begins with an historical sketch of the development of organic

chemistry, and a consideration of such topics as the nature of carbon, homology, isomerism, stero-isomerism, types of formulæ, nomenclature, and classification of organic compounds. The compounds of the aliphatic and aromatic series are then studied in detail. Those compounds and processes which are of technical or theoretical importance receive special attention. This course is recommended to those students who contemplate the study of medicine or other phases of chemico-biological work, or chemical engineering. Course VI should be taken in conjunction with this course. Open to students who have completed Course II.

Throughout the year, three hours.

COURSE VI—Organic Preparations, Reactions, and Analysis. This is a laboratory course involving methods for the preparation, the purification, and the analysis of a number of typical organic compounds. The physical and reaction properties, and the relationships of these compounds are then studied in detail. In the prosecution of this work the student becomes familiar with the apparatus and operations involved in the work of practical organic chemistry, such as crystallization, determination of melting and boiling points, fractional distillation, steam distillation, extraction, drying, determination of molecular weights; and with the general methods of preparation, such as etherification, oxidation and reduction, saponification, nitration, sulphonation, diazotization, etc. The work in organic analysis includes in addition to the usual qualitative tests, quantitative determinations of carbon, hydrogen, nitrogen, and halogens. Laboratory work, six hours a week. Open to those who have completed or are taking Course V.

Throughout the year, three hours.

COURSE VII—Sanitary Analysis and Physiological Chemistry. The purpose of this course is to familiarize the student with the standard methods of making physical, chemical, and bacteriological examinations of air, water, milk, sewage, food, etc. Although attention will be given to the study of the distribution, cultivation, identification of various pathogenic microörganisms, stress will be placed upon the chemical changes effected by these organisms. This course is recom-

mended to those who contemplate pursuing medicine as a profession or sanitary work. Opportunity is provided for practical as well as research work along this line. For example, blood, urine, and sputum are studied, with a view of emphasizing their diagnostic value; methods for testing efficiency of disinfectants are considered; etc.

Throughout the year, three hours.

COURSE VIII—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines. It is designed to familiarize the individual with many of the analytical methods in use in commercial laboratories. Three lines of work are open to the student:

(a) **Metallurgical Analysis,** which includes the analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke, and coal.

(b) **Food Analysis,** which includes the analysis of those substances essentially organic in nature, as foods, and the detection of adulterants.

(c) **Agricultural Chemistry,** which includes analysis of soils, fertilizers, dairy products, etc.

Special courses in **Biological Chemistry** and **Toxicological Analysis** are offered to students preparing for the profession of chemistry or the study of medicine.

Hours elective.

COURSE IX—Physical Chemistry. This course aims to give the student a general knowledge of the principles of the subject by means of lectures, reading, and laboratory work. This latter work will include the determination of "the heat of neutralization," "heat of solution," "speed of reaction," solubilities, molecular weights, conductivities, refractive indices, and an experimental study of various other physical and chemical constants. Six hours per week.

Throughout the year, three hours.

COURSE X—History of Science and Development of Chemical Theory. The first part of this course is devoted to a general survey of the historical development of science, after which

an effort is made to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparation of theses. Open to students who have completed Course I.

Throughout the year, two hours.

COURSE XI—Industrial Chemistry. The work of this course has been outlined to meet the wants of those students who are particularly interested in the application of chemical processes to the commercial arts.

Throughout the year, three hours.

ECONOMICS.

The courses in this department are open to those who have completed a year's work in history or political science. Particular attention is given to the study of the development of economic life and institutions, American conditions being specifically analyzed. Students are familiarized with the accepted principles of economics, and they are given a practical acquaintance with the problems of complex economic organization. Encouragement is also offered to individual research, with a view to possible future specialization. The instruction in the several courses is conducted by means of lectures and assigned reading in journals, periodicals, and government documents. Papers on topics assigned for investigation and comparative examination of various authorities are required at different stages of the work. Throughout the work in economics its close relationship to history and political science is impressed on the student, and the work in these subjects is closely coordinated. Course I is required for admission to any of the other courses in this department.

COURSE I—Principles of Economics. This course is a general survey of the field of economics, covering production, consumption, exchange and distribution,—the accepted elements of the science. The text used is Seligman's Principles of Economics, and required readings are assigned in leading modern authorities.

First term, three hours.

COURSE II—Applied Economics. This course consists of a detailed examination of the principles that control corporations, trusts, labor, the tariff, and the social and industrial organization of the present day. Instruction is conducted by means of lectures and conferences, and by individual investigation and papers.

Second term, three hours.

COURSE III—Money, Credit, and Banking. This course treats of the nature and functions of money; the nature and uses of credit; and the functions of banks and the principles of banking as shown in the banking systems of the chief commercial countries. An intensive study is made of the theories, practice, and legislation of the United States. Scott's Money and Banking is the text used. This course alternates with Course V.

First term, two hours.

Given in 1919-20.

COURSE IV—Economic Theories. This course traces the development of economic thought from its beginning down to the present time. A study is made of the leading principles of the science as propounded by such writers as Adam Smith, Malthus, Ricardo, Mill, and Walker. The seminar method is used. This course is open to a limited number of students who have completed Courses I and II. This course alternates with Course VI.

Second term, two hours.

Given in 1919-20.

COURSE V—Public Finance. This course comprises a study of the general problems of public finance, with especial emphasis on the fiscal needs and methods of our federal gov-

ernment and of the state and municipal governments of the United States. Modern developments in the field of taxation, the budget system, and the problems of war finance are emphasized. This course alternates with Course III.

First term, two hours.

Given in 1920-21.

COURSE VI—Labor Organizations and Problems. This course treats of the origin and nature of labor problems. The subjects studied are immigration, unemployment, child labor, labor legislation, conciliation, arbitration, co-operation, and profit sharing. An attempt is made to understand and to reconcile the so-called conflict between labor and capital. This course alternates with Course IV.

Second term, two hours.

Given in 1920-21.

EDUCATION.

The aim of the department is to give elementary instruction in pedagogy, with special reference to secondary education. The courses offered, together with Philosophy I, II, III, IV, and V, give the student ample opportunity to meet in full the requirements of the educational code of Pennsylvania for the Provisional Certificate.

COURSE I—History of Education. The development of educational practice and theory in the ancient, medieval, and modern world. Special emphasis upon Greek education, the advance in education inaugurated by the Renaissance, the chief modern educational reformers, and the modern movements in education. Lectures, text-book, collateral readings, theses. Open to juniors and seniors.

First term, three hours.

COURSE II—Principles of Secondary Education. A brief survey of the development of secondary education in Europe and America; the traits of early and middle adolescence, with special reference to the educational needs of the student; the

organization, methods, curriculum, and problems of the high school; the place and function of secondary schools in the school system and in American life; the reorganization of secondary education. Lectures, text-book, supplementary readings. Open to those who have taken Philosophy II.

Second term, three hours

Given in 1920-21.

COURSE III—Educational Psychology. The development of the mind in childhood and adolescence. The facts and principles of the learning process, with reference to instinct, habit, attention, interest, memory, formal discipline, etc. The psychology of writing and reading. Lectures, text-books, laboratory exercises. There will be two lectures and one laboratory period of two hours each week. Open to those who have taken Philosophy II.

Second term, three hours.

Given in 1919-20.

ENGLISH BIBLE.

The work in this department is intended to open to the student the rich stores of literature contained in the Bible; to familiarize him with the history of the Hebrew people, their civilization, and their influence on the world; and to lead to the critical study of the spirit and form of Hebrew literature as it is shown in the English version. The English Bible is studied as a great monument of our literature and as the source of our knowledge of one of the great civilizations of the world. The courses do not touch questions of doctrine or belief.

COURSE I—A General Introduction to the English Bible. The evolution of the English Bible will be traced in detail and illustrated by rare original copies of the early translations. The history of the Hebrew people, as told by their own chroniclers, will be studied, especial attention being given to the picturesque biography and the historical crises which vitally

affected the development of the nation. A general survey of the different types of literature to be found in the Old and New Testaments will be given. The student will be constantly reminded of the influence of Bible thought and phrase upon modern literature. Lectures must be taken down in carefully written note-books.

Throughout the year, two hours.

COURSE II—New Testament History and Literature. Stress will be laid on the importance of understanding the political and religious background of the New Testament life and thought. The growth of the Christian literature will be examined in outline, with constant reference to the new discoveries of contemporaneous documents, after which the life of Christ and the Epistles of St. Paul will be taken up in chronological order and studied both from the historical and literary standpoints. This will be essentially an interpretative course. Open to all who have taken Course I.

Throughout the year, three hours.

Given in 1919-20.

COURSE III—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Palestine from the earliest times down to the IVth century B. C. is studied in connection with the life and development of the Hebrew people. The international connections of the Hebrews are traced, the marked eras of the nation's growth are sharply defined from the Conquest to the Exile, and the later origin of Judaism explained. The principles governing the proper interpretation of all Oriental writings are defined and applied to the early Bible narratives. The relation of the Bible to science is here examined. The literature of the Old Testament, taken up chronologically, is compared with contemporaneous writings. Particular attention is given to the origin, growth, and character of the legal literature and to the theology of the prophets.

Throughout the year, three hours.

Given in 1920-21.

COURSE IV—Biblical Archeology—New Testament. A careful examination will be made of the abundant archeological

material illustrating the New Testament. Beginning with a brief sketch of modern discoveries of papyri, it will discuss the new light thrown upon the language of the New Testament and upon the ancient Greek MSS. and earliest versions, and will include a study of many Christian documents recently discovered—"Lost Gospels," libelli, prayers, hymns, sermons, letters, etc.—as well as the early funeral and other inscriptions found in Italy, Asia Minor, and Egypt.

First term, three hours.

Given in 1920-21.

COURSE V—History of the Early Church. This course will briefly consider the condition of the Christian Church at the death of St. Paul and for the quarter of a century following; will study the General Epistles and the Apocalypse of St. John in the light of contemporaneous events; and will examine the social and moral life of the early Church during the next three centuries, in the light of the patristic writings and newly discovered material.

Second term, three hours.

Given in 1920-21.

COURSE VI—Biblical Archeology—Old Testament. An extensive account of recent excavations in Egypt and Babylonia will be given, as well as such new information as has been obtained concerning ancient customs and laws illustrating Bible usages. The world relations of the Hebrew people will be emphasized, certain special important eras wil lbe studied in detail, and the history connected with that of the surrounding nations will be presented. Contemporaneous literature will be examined and parallels with Old Testament literature noted.

First term, three hours.

Given in 1919-20.

COURSE VII—Jewish Life and Literature from the Fourth Century B. C., to the Beginning of the Christian Era. This will include a study of the influence of Persia and Greece upon Palestinian Judaism; a brief sketch of the political development, special attention being given to the war of independence under the Maccabees and its effects; a detailed examination of the rise of the Pharisees and Sadducees; a study of the Wisdom

Books of the Old Testament and the non-Biblical Jewish works dating from this era, with particular reference to the Odes of Solomon and other recently discovered literature having marked influence upon the early Christian writers.

Second term, three hours.

Given in 1919-20.

ENGLISH LANGUAGE AND LITERATURE.

This department aims to cultivate straight thinking and facility of expression; to acquaint the student with the various fields of English writing from a historical standpoint; and to develop a genuine taste for good literature and the ability to interpret it. The formal study of composition is undertaken in Course I, but in all courses attention is given to correct expression, both oral and written.

COURSE I—English Composition. The principles of rhetoric, the study of selections, and frequent practice in the writing of themes. The course aims to teach the student to find appropriate thought, its orderly arrangement, and its adequate and easy expression.

Throughout the year, three hours.

COURSE II—Survey of English Literature. A comprehensive view of English Literature from the Old English period to the present time. Lectures and recitations on assigned readings from writers representative of the important periods of English Literature.

Throughout the year, two hours.

COURSE III—American Literature. A general view of writing in America from the first colonial period. Lectures, recitations, and reports on assigned readings.

Throughout the year, two hours.

Given in 1920-21.

COURSE IV—Anglo-Saxon. Bright's Anglo-Saxon Reader with appropriate readings in reference books on the English language. The course aims not only to give a reading knowl-

edge of Anglo-Saxon, but also to show the development from Anglo-Saxon to Modern English. The work will be especially valuable to students planning to teach English.

First term, three hours.

Given in 1920-21.

COURSE V—Old and Middle English Poetry to the Time of Chaucer. The course includes such Old English poetry as Beowulf, the Wanderer, the Seafarer, and The Battle of Brunanburh; and typical Middle English histories, legends, romances, tales, and lyrics. No knowledge of Anglo-Saxon or Middle English is necessary.

Second term, three hours.

Given in 1920-21.

COURSE VI—Chaucer and the Later Middle English Poets. Most of the time will be spent upon Chaucer; but consideration will also be given to The Vision of Piers the Ploughman, Sir Gawain and the Green Knight, etc., and the ballads.

Second term, three hours.

Given in 1919-20.

COURSE VII—Shakespeare. A detailed study of one or two plays, and a rapid reading of several others.

Given in 1919-20.

First term, two hours.

COURSE VIII—The Age of Milton. The Puritan Period. Milton's early poems. Paradise Lost and Paradise Regained. The Cavalier poets. Seventeenth century prose.

Throughout the year, two hours.

Given in 1921-22.

COURSE IX—English Literature of the Eighteenth Century. The age of Pope and the classic tradition. Early periodical literature. Ballad opera. The beginnings of the English novel. Dr. Johnson and his circle. The romantic movement. Burns.

Throughout the year, three hours.

Given in 1919-20.

COURSE X—Nineteenth Century Poets. The chief British poets from Wordsworth to Tennyson. The Pre-Raphaelites.

English verse at the end of the century. Especial attention is given to Tennyson and Browning.

Throughout the year, three hours.

Given in 1920-21

COURSE XI—Nineteenth Century Prose. Representative writers from Lamb to Stevenson will be studied; particular attention will be given to Lamb, Carlyle, Ruskin, and Arnold.

First term, three hours.

Given in 1919-20.

COURSE XII—English Drama. The course will trace the development of the English drama from its origin to modern times, tracing its growth through the Miracle Plays, Moralities, and Interludes to 1642; the development of the Heroic Drama; the ethical drama of the eighteenth century and the ballad opera; the growth of melodrama and farce.

First term, two hours.

Given in 1919-20.

COURSE XIII—Contemporary Drama. A study of the new dramatic literature, its technique, aims, and problems, beginning with the later plays of Ibsen.

Second term, two hours.

Given in 1919-20.

COURSE XIV—Prose Fiction. The development of the English novel. The rise of the short-story. The work consists of class-room lectures, and a rapid reading of representative novels.

First term, two hours.

Given in 1919-20.

COURSE XV—Literary Composition. A course for those who desire to give serious attention to writing in any field. The course will be limited to a very small number who have satisfied the instructor by work submitted in advance of some ability or promise. Much writing will be required, together with assigned readings, and conferences on work done.

Throughout the year, one hour.

Greek Literature in English. A study in the development

of some of the fundamental forms of literature and of the distinguishing characteristics of Greek literature. The course is described under Greek VII and may be counted toward a major or a minor in English.

FRENCH LANGUAGE AND LITERATURE.

It is the aim of the courses in this subject to give to the student: (1) an accurate knowledge of the language of the present time both as written and spoken; (2) an appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as outlined above is carried on by means of recitations, written exercises and essays, lectures in French, and collateral readings. Much stress is laid from the beginning upon the ability of the student to express himself directly in the language. With this end in view the work of the class room is conducted in French, and phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I—Elementary French. Olmsted's First Course in French is used as a reference book. Oral and written exercises. Dictation. Reading of easy prose.

Throughout the year, four hours.

COURSE II—Intermediate French. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. In this course brief outlines of the history of literature are also given with collateral readings from celebrated authors.

Throughout the year, four hours.

COURSE III—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, La

Bruyère, Pascal, Bossuet, Fénelon, Mme. de Sévigné, Mme. de La Fayette.

Throughout the year, three hours.

Given in 1919-20.

COURSE IV—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire, Montesquieu, Rousseau, the Encyclopedists, Beaumarchais, Lesage, Marivaux, André Chénier.

Throughout the year, three hours.

Given in 1920-21.

COURSE V—French Literature in the First Half of the Nineteenth Century. A study of the principal authors of this period: Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Sainte-Beuve, Balzac.

Throughout the year, three hours.

Given in 1920-21.

COURSE VI—French Literature after 1850. A study of the literary movements in France after the decline of Romanticism, with especial reference to the novelists and dramatists. Outside reading will be required in addition to rapid reading from a number of the authors of this period. A brief survey will be made of contemporary writers, including Rostand and Maeterlinck.

Throughout the year, three hours.

Given in 1919-20.

COURSE VII—French Prose Composition. Designed especially for those desiring to teach French.

Throughout the year, two hours.

GEOLOGY.

Including Geography, Mineralogy, and Paleontology.

Geology deals with the constitution and history of the earth and the character, history, and relationships of the developing life upon it. It explains many of the natural phenomena at hand, or that one meets in

travel, and calls forth careful observation and clear thinking. The courses are planned to give thorough training in the principles of the subject and a sound basis for future industrial, economic, or professional work in its various departments.

COURSE I—General Geology. This course treats of the history of the earth together with its structure and physiography; attention is given to the various agencies which modify the earth's surface, including the atmospheric, aqueous, igneous, and organic; the structure and kinds of rocks, formation of soils, and the deposits of the various economic materials, including coal, oil, gas, ores, and precious stones are considered. Recitations three hours a week; field and laboratory work two hours a week. Open to those who have had a course in high school or college chemistry.

Throughout the year, four hours.

COURSE II—Advanced Physiography. This course deals with the physiography of the lands and the oceans, and with the atmosphere in relation to climate and weather conditions. Stress is laid on the method of development of topographic forms, and training is offered in field and laboratory methods in physical geography. In the laboratory and field, types of land forms, the methods of making maps, structural, longitudinal, and cross sections are studied. Recitations two hours a week; laboratory or field work two hours a week.

First term, three hours.

COURSE III—Commercial and Regional Geography. In this course a study is made of the geographic basis of commerce and commercial products, and stress is laid on the regional phase of the subject. A more detailed study of conditions in the United States is made the basis for comparison with conditions in other countries. There are many large manufacturing plants and shipping concerns in this region, some of which may be visited. Recitations three hours a week.

Second term, three hours.

COURSE IV—Mineralogy. Crystallography, blowpipe analy-

sis, and determinative mineralogy. A minor part of the work in the laboratory deals with crystal forms and crystal models, and a major part takes up the study of about one hundred fifty minerals by means of the blowpipe and other physical and chemical tests. Open to students who have completed a year in chemistry.

First term, three hours.

COURSE V—Paleontology. This course includes the study of invertebrate and vertebrate animal and plant fossils with reference to structure, classification, habitat, and geologic and geographic distribution. The permanency of certain types, the extinction of some groups, and the rise of new forms are noted with the bearing on the theory of evolution. Representatives of the various groups are studied in the laboratory and field. Recitations two hours a week; laboratory and field work two hours a week. Open to students who have completed Course I and Biology I, or their equivalents.

Second term, three hours.

GREEK LANGUAGE AND LITERATURE.

The aim of the department is to give the student a practical acquaintance with Greek life and thought. This can be adequately gained only through a first-hand knowledge of the literature. By accurate work in the first years of the study of the language the student can acquire the ability to read widely and independently.

Students entering college without Greek may take Greek A, and be prepared to enter the later courses with a minimum loss of time.

It is realized that some students have been denied the opportunity to secure a mastery of the language who would be glad to have something of the inspiration that comes from contact with Greek culture and institutions. For such the courses in Greek art, Greek history, and Greek literature in translation are available.

The department possesses a carefully selected collection of casts of antique sculpture, a considerable number of Greek vases and vase fragments, about a thousand photographs, and several hundred lantern slides.

GREEK A—Elementary Greek. This is a course intended to prepare students to enter Greek I after a year of careful work. After the completion of some such book as Allen's First Year of Greek, selections are read from Xenophon and other Attic authors. Students of some maturity and reasonably well grounded in Latin will be prepared in one year to do the work in Greek I with profit.

Only in exceptional cases will this course, without further work in the subject, be counted toward a degree.

This course may not be taken to remove entrance conditions.

Throughout the year, five hours.

COURSE I—Homer. The Iliad or the Odyssey. Detailed study of two books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Greek Composition.—A weekly exercise in composition based on passages from classic authors. The aim is to develop a vocabulary and an accurate knowledge of the fundamentals of Greek syntax. Dictation and impromptu writing of Greek are emphasized.

Throughout the year, four hours.

COURSE II—Lysias. Selected Orations. As an introduction to this part of the work a detailed study is made of the history of Athens in the Periclean age and of the Peloponnesian War.

Plato—The Apology and Crito and selections from the Phaedo. Outline of the history of Greek philosophy.

This course is made the basis of the study of historic Greek life and institutions.

Throughout the year, three hours.

COURSE III—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Iphigeneia in Tauris, and Aristophanes' The Frogs. The course is made not only a study of the origin and development of the Greek drama, but also a study in literary evolution.

Throughout the year, three hours.

COURSE IV—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings.

Course III and IV are offered in alternate years. In 1920-21 III will be given. Open to all who have completed Course II.

Throughout the year, three hours.

COURSE V—Greek Testament. A close study of a portion of the New Testament, usually the Gospel of Mark. Familiar and accurate knowledge of vocabulary, syntax, and idioms is aimed at. Acts and some of the shorter Epistles are read more rapidly to develop facility in grasping the thought of the original. Much stress is laid on sight reading and on accurate but untraditional translation. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

COURSE VI—Greek Literature. Survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

Courses V and VI are offered in alternate years. In 1920-21 V will be given.

The following courses are open to students who have completed Course I and to a limited number of juniors and seniors who have no knowledge of Greek.

Greek VII—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. Much attention is given to the development of literary forms. The growth of the Greek drama and its influence on modern drama are closely studied.

Throughout the year, two hours.

COURSE VIII—Classical Archeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean civilization. Greek vase painting. Greek architecture.

Throughout the year, two hours.

COURSE IX—Classical Archeology. Greek Sculpture.

Throughout the year, two hours.

Courses VIII and IX are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required.

GREEK X—Greek History from the Homeric period to the Roman conquest. The origin and development of social and political institution among the Greeks, their experiments in popular government, their contribution to medieval and modern civilization. Modern contrasts and parallels are emphasized.

Throughout the year, two hours.

HISTORY.

The aims of this department are to give that knowledge of the facts and philosophy of history which belongs to a liberal education, to equip the student for more advanced work in the historical and social sciences, and to prepare the student for journalism or for the study of the law. With these ends in view the courses are so arranged as to cover a wide field of study in a thorough and orderly manner. The evolution of European civilization from its sources, the growth and influence of Anglo-Saxon institutions, the

development of the Modern European nations and of the United States are the general themes of the work. Especial emphasis is laid upon the Renaissance and Reformation, the French Revolutionary and Napoleonic eras, and the development of the great European powers from the Congress of Vienna to the present time. The settlement and expansion of the American colonies and the social, economic, and political evolution of the United States are given careful and detailed study. History is presented as a real educative process and the close connection between history, political science, and economics is constantly kept in mind, the work in these three subjects being closely coordinated. The department has the appropriate library authorities for the several courses, and source materials are used where available. The method of instruction is a combination of lectures and required reading with written and oral quizzes and class discussion. Course I is required for admission to the succeeding courses.

COURSE I—Europe during the Middle Ages. This is a general course in the history of western Europe from the Teutonic migrations to the close of the Seven Years' War. The first term covers the main developments in the period from the breakdown of the Roman Empire through the Crusades. The second term is occupied with the growth of the national states, and with the religious and political struggles for balance of power. Emphasis is laid on social and economic conditions during the period covered. The text for class guidance is Robinson's History of Western Europe, and assigned readings are given in various sources and authorities.

Throughout the year, three hours.

COURSE II—Modern European History. This course begins with a thorough examination of the various countries in Europe during the period between 1763 and the opening events of the

French Revolution. The French Revolution and the Napoleonic era are given adequate treatment in their relation to France and to the rest of Europe. The work of the Congress of Vienna and the effect of the policies there adopted are studied, in their relation to each of the great European countries and in their international phases. Special attention is given to the unification of Italy and of Germany, to the various constitutional changes in France, and to the formation of the Triple Alliance and the Triple Entente. A careful study is made of the near and far Eastern question, the awakening of Russia, the partitions of Africa, and the situation at the outbreak of the great world-war. The text used for class guidance is Hazen's Europe since 1815. The course is a lecture course with assigned readings and oral and written quizzes.

Throughout the year, three hours.

COURSE III—The Renaissance and the Reformation. The first term is devoted mainly to the Renaissance in Italy and subordinately in England. The political, intellectual, literary, and aesthetic phases of the movement are studied. Burckhardt and Symonds are the authorities used, with Einstein for the English Renaissance. The second term is occupied with the Reformation from Wycliffe to the Peace of Westphalia. The texts are Hausser and Fisher.

This course alternates with Course IV.

Throughout the year, two hours.

Given in 1920-21.

COURSE IV—History of England. This course comprises a brief survey of English history from the Anglo-Saxon invasions to the Norman Conquest, and a more detailed study of the period from 1066 to the present. The text for class room guidance will be Tout's History of Great Britain. This is a lecture course with readings from the sources and authorities.

This course alternates with Course III.

Throughout the year, two hours.

Given in 1919-20.

COURSE V—American History, 1492 to 1830. The purpose of this course is to familiarize the student with the history of America and of American institutions. Beginning with

the period of discovery and colonization a careful study is made of the development of the colonies, and of the causes which led up to the American Revolution. The Revolutionary movement and the period of the Articles of Confederation, the adoption of the Federal Constitution, and the social, economic, and political development of the United States up to the year 1830 are subjected to careful analysis. Bassett's Short History of the United States is the text used for class guidance.

This course alternates with Course VI.

Throughout the year, two hours.

Given in 1919-20.

COURSE VI—American History, 1830 to 1918. This course is a continuation of Course V, and takes up the study of the history of the United States from 1830. The triumph of the Jacksonian Democracy, the annexation of Texas, the controversy over slavery, and the causes leading up to the war between the states are made subjects of careful investigation. The outbreak and progress of the struggle which followed the election of Abraham Lincoln, and the great work done by him in saving the Union and bringing the fight against secession to a successful conclusion are followed step by step. A thorough study is made of the Reconstruction Period, of the development of nationalism since 1870, and of America's growing influence as a world power. Attention is given to the growth of industry and commerce throughout the period after 1860. The same text is used as in Course V.

This course alternates with Course V.

Throughout the year, two hours.

Given in 1920-21.

Greek History—This course is described under Greek X.

Roman History—This course is described under Latin III-A.

These courses may be counted as work in history and are particularly recommended for those who expect to teach history.

ITALIAN LANGUAGE AND LITERATURE.

This department offers two courses in which a thorough study of the grammar is made and a good read-

ing knowledge is obtained. The first year is devoted to an intensive study of the grammar and the reading of easy modern texts. In the second year a study is made of the older Italian classics.

COURSE I—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as De Amicis, Cuore; Goldoni, Il vero Amico; Manzoni, I Promessi Sposi.

Throughout the year, three hours.

Given in 1919-20.

COURSE II—Literature in the Thirteenth and Fourteenth Centuries. Dante, La Divina Commedia; Petrarca, Rime Scelte, etc.

Throughout the year, two hours.

Given in 1920-21.

LATIN LANGUAGE AND LITERATURE.

The courses in the Latin department are intended to direct the student to a systematic study of the language and its development, to acquaint him through a varied reading of the best authors with the leading features of the literature, and to make him familiar with the main facts of Roman history, life, and civilization. Technical grammar and composition are studied only in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and fac-similes of inscriptions and has a good collection of photographs, lantern slides, and antiquities for illustrative purposes.

The instruction is given by means of recitations, supplemented by lectures and, in the advanced courses, by individual work.

LATIN A—Cicero. Selected orations. May be accepted as one unit for entrance.

First term, five hours.

LATIN B—Vergil. Aeneid, Books I-VI. May be accepted as one unit for entrance.

Second term, five hours.

COURSE I—Cicero, De Senectute or De Amicitia. Selections from **Livy, Sallust,** and **Cicero's** Letters covering in outline the history of the Republic, or selections from the Metamorphoses of Ovid. Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation.

Throughout the year, four hours.

COURSE II—Horace, selected Odes and Satires.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's life and philosophy, and to as much of the history and customs of the period as sheds light on the subject matter.

Readings from Latin Verse of all periods. History of Latin literature.

Throughout the year, three hours.

COURSE III A—Roman History. A study of the history of Rome from the early period through the establishment of the Empire, with especial reference to the development of the Roman Constitution and political institutions, the growth of the democratic movement, and Rome's contribution to the civilization of later periods. This course may be taken without Latin preparation and may be counted in the department of History.

Throughout the year, two hours.

B—Latin readings and investigations parallel to and illustrative of the material in Latin III A.

Throughout the year, one hour.

Open to all who have completed or are taking Course II.

Given in 1919-20.

COURSE IV—Roman Private Life. Lectures on Roman Private Life with collateral readings in Latin, largely from Pliny's Letters, illustrating the subjects treated. In addition to the

Latin readings, library readings and reports on specific subjects in connection with the course are required. The department has a collection of antiquities, charts, and models for illustrative purposes.

The course alternates with Course III. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1920-21.

COURSE V—Roman Topography. A lecture course which does not limit the field strictly to the topography of Rome, but attempts to give a general knowledge and appreciation of the City of Rome, its architecture, monuments, history, and customs, as well as its contribution to modern civilization and life. The department has a good collection of illustrative material—maps, topographical models, charts, photographs, and lantern slides. The library contains most of the important books in English needed for the course, in which students are required to do considerable collateral reading.

May be elected without previous preparation in Latin.

Throughout the year, two hours.

Given in 1919-20.

COURSE VI—Advanced Latin Composition. Practice in writing prose, with careful study of syntax and idiom. Individual work designed primarily for those who look forward to teaching or to graduate work. One hour class work and one private conference weekly.

All students expecting recommendations to teach Latin should take this course. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1920-21.

MATHEMATICS.

The courses in this department are arranged with a view to develop in the student a certain degree of mathematical maturity and to familiarize him with the

subject matter and methods of mathematical work, as well as to provide for the more or less technical and traditional requirements in the different mathematical subjects.

COURSE I—Algebra and Trigonometry. This is a continuation of the algebra required for entrance. Much attention is given to graphical representation of linear and quadratic equations, and the following topics are considered: mathematical induction and the binomial theorem for positive integral exponents, logarithms, undetermined coefficients, permutations and combinations, the theory of equations and an elementary treatment of determinants. The elements of trigonometry on the plane and on the sphere.

Throughout the year, four hours.

COURSE I A—Solid Geometry, Algebra and Plane Trigonometry. This course is offered to those who do not present solid geometry for entrance but who desire to continue their mathematical studies. It includes work in what might be termed intermediate algebra, rapidly reviewing quadratic equations and reading some new chapters. The course concludes with a study of plane trigonometry.

By arranging in advance with the instructor and the registrar, this course may be discontinued at the close of the section on solid geometry.

Throughout the year, four hours.

COURSE II—Analytic Geometry and Calculus. An elementary treatment of the fundamentals of analytic geometry, of two and three dimensions. This course includes a complete elementary treatment of differential and integral calculus.

Throughout the year, four hours.

COURSE II A—Selected Chapters in Mathematics. This course requires Course I or Course I A, and is composed of an introductory chapter on elimination, including the use of determinants; the study of the algebraic polynomial, by means of graphical representation; the analytic geometry of the line and the more important theorems of equations; the definition of a

derivative; simple applications of the calculus to problems involving tangents, maxima and minima; and the study of elementary transcendental functions.

This course is especially adapted to those who are expecting to teach secondary mathematics.

Throughout the year, three hours.

COURSE III—Advanced Calculus. This course is a continuation of Course II. It should be taken by those who intend to pursue advanced work or are looking forward to work in applied mathematics. This course presupposes Course II or Course II A.

First term, three hours.

COURSE IV—Differential Equations. An elementary treatment of differential equations, with applications to physics and mechanics. This course is necessary to a well-rounded course in mathematics.

Second term, three hours.

COURSE V—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometry of Position; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1919-20.

COURSE VI—Functions of a Complex Variable. A general introduction to the theory of functions of a complex variable.

Throughout the year, two hours.

Given in 1920-21.

PHILOSOPHY.

The courses of the department are planned with the following purpose: to bring about reflective views of human society and the world order; to establish an attitude toward life and its problems that will make

the individual an efficient factor in promoting and conserving the welfare of his fellowmen; to lead the student to a better understanding of the laws of human nature, and to a critical study of himself; and to acquaint those desiring it with laboratory methods in psychology. The standpoint is in strict accord with the assured results of scientific research. Facts are brought together from the various fields of science, and presented in such a way as to produce breadth of vision in the interpretation of natural and social phenomena.

COURSE I—Logic. The nature and function of thought; the methods of science; errors of perception, memory, and testimony; immediate and mediate reasoning; material and formal fallacies; the logic of argumentation. Text-book, assigned readings, lectures, and written exercises. Open to juniors and seniors.

Second term, three hours.

COURSE II—General Psychology. The structure and the functions of consciousness are exhibited by means of lectures, class-room demonstrations, and recitations. The subject is treated from the standpoint of natural science. Each student is required to perform a limited number of experiments. Open to juniors, and to sophomores who major in the department.

First term, three hours.

COURSE III—Experimental Psychology. An introductory course for students who desire to become acquainted with the methods of investigating psychological phenomena. Experiments in the psychology of the special senses, attention, memory, feeling, fatigue, reaction-time, etc. Lectures, laboratory work, and supplementary readings. Two hours of laboratory work for one hour of credit. Open to those who have taken or are taking Course II.

Throughout the year, two hours.

COURSE IV—Social Psychology. An examination of the so-

cial implications of mental development in the individual and the race. The influence of the social environment upon the development and the organization of native tendencies; the rise of self-consciousness; the evolution of the social consciousness through the application of moral judgment. The psychology of the crowd, of fashion, and of custom. Lectures, text-book, collateral readings. Open to those who have taken Course II.

First term, two hours.

Given in 1920-21.

COURSE V—Ethics. An introductory study of the moral life from the standpoint of its development, theory, and practice. An attempt to lay a rational basis for the moral life in the individual. Lectures, text-book, written exercises, and supplementary readings. Open to those who have taken Course II.

Second term, three hours.

COURSE VI—History of Ancient and Medieval Philosophy. A survey of the development of philosophic thought from Thales to the Renaissance, considered in its relation to the sciences and to religious, social, and political conditions. Special attention is given to Democritus, the Sophists, Plato, and Aristotle, and their influence upon subsequent thought. Open to juniors and seniors.

First term, two hours.

Given in 1919-20.

COURSE VII—History of Modern Philosophy. The growth of philosophic thought from the time of Bacon and Descartes. The relations are exhibited which philosophy has sustained to the development of modern civilization. Lectures, text-book, and assigned readings. Open to juniors and seniors.

Second term, two hours.

Given in 1919-20.

COURSE VIII—Current Philosophical Tendencies. A course designed to acquaint the student with contemporary tendencies in philosophical thought. The standpoints of outstanding present-day philosophers in Europe and America will be discussed.

Lectures, collateral readings, and theses. Open to seniors, and to juniors who have had two courses in philosophy.

Second term, two hours.

Given in 1920-21.

COURSE IX—Theism. The true basis of knowledge is inquired into, the traditional arguments for the existence of God are critically examined, and the attempt is made to show that the theistic conception of the world is a necessary postulate of reason and of human life as a whole. Open to all who have taken Bible I, and have taken or are taking Course II.

First term, two hours.

Given in 1919-20.

COURSE X—Philosophy of Religion. The origin and nature of religion; the relation of the philosophy to the history of religion; the trustworthiness of the religious consciousness; the universal element in all religions; the philosophy of primitive beliefs and practices, such as fetichism, magic, and sacrifice; the characteristics which distinguish tribal, national, and universal religions; the causes of variation in religion; the reason why so few religions have been missionary; the relation of religion to secular life, to science and art, to morals and theology; the ultimate value of religion; the religion of the future. Lectures, text-books, theses. Open to those who have taken Bible I, and have taken or are taking Course V.

Second term, two hours.

Given in 1919-20.

COURSE XI—History of Religion. This course will treat of the earlier forms of religious worship, and the origin of the great historic cults. It will give special attention to the tenets of the ethnic religions at the epoch of their highest development, and will trace sympathetically the essential influences of these religions upon national and social life, and specially upon morals and personal religious experience. The relation of Christianity to the cycle of ancient historical religions will be considered. Lectures, text-books, and theses. Open to those who have taken Bible I, and have taken or are taking Course II.

First term, two hours.

Given in 1920-21.

COURSE XII—Philosophic Basis of Christian Fundamentals. After a brief consideration of the nature and value of religion in general, this course will take up the importance of environment upon Christian origins, and the relation of Christianity to the contemporaneous Jewish and Gentile religions, noting essential agreements and differences. This will be followed by an attempt to define the true nature and essence of Christianity, and to state briefly the philosophy of such distinctive Christian doctrines as the incarnation, atonement, miracles, Christian faith, conversion, etc. Christian ideals will be examined in the light of present-day problems of civilization and culture; the question will be raised whether the supremacy and ethical transcendence of Christ do not represent the ultimate ideal of religion, and insure the finality of Christianity. Open to those who have taken Bible I, and have taken or are taking Course V.

Given in 1920-21. *Second term, two hours.*

PHYSICS.

This department offers courses which contribute to general culture, and those which give training for technical work. They are presented by means of lectures with experimental demonstrations, combined with recitations and discussions of problems. In addition the student performs experiments in the laboratory for the purpose of obtaining a practical knowledge of the fundamental laws and principles of the science.

COURSE I—College Physics. This course aims to present the fundamental principles of physics, develop its laws and acquaint the student with the relation between energy and matter. These principles and laws are presented in the study of mechanics; and their applications to heat, sound, light, and magnetism and electricity follow. Lectures and recitations three hours a week. Laboratory work two hours.

Throughout the year, four hours.

COURSE II—A Problem Course to supplement Course I. Open only to students who are pursuing Course I.

Throughout the year, one hour.

COURSE III—Elementary Analytic Mechanics. A course which deals with the mathematical side of physics. Special attention is given to the solution of problems in statics, kinematics, and kinetics, and other problems related to technical as well as advanced work in physics. Physics I and Mathematics II are prerequisites.

Throughout the year, two hours.

Given in 1920-21.

COURSE IV—Physical Measurements. A lecture and laboratory course involving the adjustment and use of instruments of precision. The significance and accuracy of results, together with the sources of errors and means of their elimination are carefully discussed. Open to students who have completed Course I.

Throughout the year, three hours.

COURSE V—General Physics. A course in theoretical physics dealing principally with mechanics, heat, the properties of vapor and gases, the theory of solutions, the kinetic theory of gases, thermo-dynamics, magnetism and electricity. Lectures, experimental demonstrations and recitations, two hours a week. Laboratory work four hours a week. Open to students who have completed Course I and Mathematics II.

Throughout the year, four hours.

COURSE VI—History of Physics. Open as a free elective to students who have completed Course I.

Throughout the year, two hours.

Given in 1919-20.

COURSE VII—Electrical Measurements. Lectures and recitations, supplemented by laboratory work in the theory of measurements designed to acquaint the student with the practical methods of measuring electrical quantities. It includes the standard methods of determining resistance, current, E. M. F. capacity, induction, conductivity, etc. One hour lecture and recitation; four hours laboratory. Open to those who have completed Physics I and Mathematics I.

First term, three hours.

COURSE VIII—Direct and Alternating Currents. A study of the production, control, and distribution of the electric current. Special attention is given to the dynamo and motor, not in the sense of an engineering problem of construction, but in their relation to the utilization of electrical energy. The course includes the principles and practice of transformation and conversion of alternating currents. One hour lectures and recitations, four hours laboratory work. Open to students who have completed Physics VII.

Second term, three hours.

OTHER COURSES. For students desiring to specialize in physics, courses dealing with any of the subjects treated under this department will be given as the work is demanded.

POLITICAL SCIENCE.

The courses in this field are planned so that emphasis is laid upon the organization and functions of national, state, and local governments in the United States, with the two-fold purpose of preparing students for the privileges and responsibilities of citizenship, and of familiarizing them with a concrete example of government as a foundation for the more advanced theoretical work in the nature and functions of the state in general. Three courses are devoted to government and modern political problems, and one course is offered on the general principles of political science. There are also courses on constitutional law and on international law.

COURSE I—American Government and Politics. This course comprises a study of the structure and functions of our national and state governments. Throughout the course present-day political problems of national and local interest will be made subjects of class discussion. Beard's American Government and Politics and Bryce's American Commonwealth are used as outlines for the work.

First term, three hours.

COURSE II—Municipal Government. This course includes an outline of the growth of American municipalities and a study of the organs and functional mechanism of modern cities of the United States and Europe. Emphasis is laid upon the newer tendencies in municipal government, the commission form of government and the city-manager plan coming in for thorough analysis. Munro's The Government of American Cities, and The Government of European Cities by the same author furnish a basis for the work.

Second term, three hours.

COURSE III—Comparative Government. A study is made of the constitutional structure and organization of the governments of the more important European countries. The object of the course is to enable the student to compare these governments, both in theory and in their practical workings, with each other and with our own. The course is open only to those who have had Political Science I and II and History I, as these courses are necessary to a proper understanding of the subject matter of this work. Ogg's Governments of Europe is the text-book used.

First term, two hours.

COURSE IV—Principles of Political Science. This course comprises a study of the origin, nature, and functions of the state and a critical examination of ancient, medieval, and modern political theories. The requirements for admission to this course are the same as for Course III. Garner's Introduction to Political Science furnishes the general outline for the course.

Second term, two hours.

COURSE V—Constitutional Law of the United States. This course is intended to familiarize the student with the leading principles of the American constitutional system. The course will deal principally with the federal constitution and with the decisions of the Supreme Court of the United States. This course will be found of special value to those students who contemplate advanced work in political science or who intend to enter upon the study of the law.

Throughout the year, two hours.

Given in 1919-20.

COURSE VI—International Law. The object of this course is to set forth the rules and principles of international law as a positive system with an historical background of custom and convention. The attributes of sovereign states, and their rights and duties as members of the family of nations, in peace, in war, and in the relation of neutrality, will receive adequate treatment.

Throughout the year, two hours.

Given in 1920-21.

PUBLIC SPEAKING.

The courses in public speaking are designed to train the student in the composition and the delivery of the various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I—Written analysis and interpretation of extracts from great orations. Extemporaneous speaking. This course aims to develop directness, earnestness, and dignity in public address. During the first term a careful study is made of the psychological principles which govern effective speaking. Sample speeches are studied, and assigned passages are delivered by each student. During the second term the same work is continued but more extemporaneous work is required.

Elective for all who are taking or have completed English I.

Throughout the year, one hour.

COURSE II—Argumentation and Debate. First term. In this term the emphasis is laid upon theory. The principles of analysis, the rules of evidence, the elements of logic, and the kinds of fallacies are discussed. There is also brief-drawing leading up to written and oral debate. Second term. The theory of the subject is concluded; the emphasis, however, is laid upon practice.

Elective for all who have completed Course I.

Throughout the year, one hour.

COURSE III—The Oration. First term. An examination of the principles of the oration as presented in some such book

as Shurter's The Rhetoric of Oratory. Collateral readings are assigned. Second term. A number of selected orations will be tested in the light of the principles studied during the first term. Each student will write a brief eulogy and will be given oral practice in the delivery of several of the forms of speeches.

Elective for all who have completed Course I.

Throughout the year, one hour.

COURSE IV—Practical platform work in the delivery of the colloquial, elevated, and impassioned styles of oratory. Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation. A systematic study of voice culture is begun in this course. The "Natural Tone Drill" is the system used. A study of the principles underlying gesture work is also required.

Elective for all who have completed Course I.

First term, two hours.

COURSE V—The study of voice culture is continued in this course in a more advanced and technical way. Dramatic readings from Shakespeare and interpretative studies of the masterpieces of literature will be given each student. Some extemporaneous platform work will also be required.

Elective for all who have completed Course IV.

Second term, two hours.

SPECIAL WORK for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

SPANISH LANGUAGE AND LITERATURE.

This department offers two courses in which a thorough study is made of the grammar and a good reading knowledge is obtained. Concurrent with the present trend of things, considerable attention is given to study of practical Spanish, including familiarization with commercial language. Attention is also given to conversational work.

COURSE I—Elementary Spanish. Espinosa and Allen's Elementary Spanish Grammar, with abundant oral and written exercises. Reading of such easy Spanish as Alarcon, El Capitán Veneno; Galdos, Dona Perfecta.

Throughout the year, three hours.

COURSE II—A study of modern Spanish novels and dramas. Composition work is continued with some such text as Umphrey's Spanish Prose Composition.

Throughout the year, three hours.

SURVEYING AND GRAPHICS.

The courses in surveying and graphics are based largely on the needs of the civil engineer and the draughtsman. The work is scientific and yet thoroughly practical in its scope and methods. While these courses are provided for students taking B. S. Group IV, they are open as electives to all students.

COURSE I—Descriptive Geometry and Elementary Mechanical Drawing. The problems are those relating to the point, line, and plane, the representation of surfaces, their intersection and development. This course includes instruction in the use and care of instruments and simple drawing in orthographic, isometric and cabinet projections.

Throughout the year, four hours.

COURSE II—Plane Surveying. This course consists of a series of lectures, supplemented by exercises in the field. The student is taught the use of the chain, tape, compass, transit and level. The work in the drawing room consists of the computations incident to the work of the surveyor and in plotting from notes taken in the field. Open to students who have completed Mathematics I.

First term, three hours.

COURSE III—Railway Surveying. This course consists of a study of railway curves and earthwork. The field work

includes a reconnaissance, the preliminary and location surveys, and the necessary computations and maps. Open to students who have completed Course II.

Second term, three hours.

COURSE IV—Mechanical Drawing. This course includes plotting, tracing, the making of blue prints, detail and dimension drawing from sketches, models, and from other drawings with a different scale. Open to students who have completed or are taking Course I.

Throughout the year, three hours.

COURSE V—Applied Mechanics. This course includes a study of the strength and elasticity of beams and columns, with the application of the principles of mechanics; in the first term to structures of steel and timber, and in the second term to structures of re-inforced concrete. Open to students who have completed Mathematics II and Physics I.

Throughout the year, three hours.

COURSE VI—Structural Mechanics. This course includes a study of strains and stresses with the application of the principles of mechanics to the design of roof and bridge trusses, and the determination of the dimensions and details of the same. Design of a simple bridge with working drawing. Open to students who have completed or are taking Course V.

Throughout the year, four hours.

COURSE VII—Highway Surveying. A study of the methods and materials of modern highway construction and maintenance, supplemented by lectures and papers prepared from government reports and current periodicals. Several short trips will be made to nearby cities to inspect materials and methods of construction. Open to students who have completed Courses II and III.

Second term, three hours.

Given in 1920-21.

PHYSICAL TRAINING.

For Men—The object of this department is to promote the health, increase the strength and secure the

symmetrical development of the students. These objects are accomplished by class exercises in the gymnasium during the fall and winter, on the field in the spring, and by periods of optional work after class hours.

Physical measurements and tests are taken upon entrance, at the close of the college course, and at other times as may be necessary. These determine the student's condition and needs, and the character and amount of exercise necessary to overcome irregular development or deformities that are amenable to physical exercise.

Students will receive personal advice with reference to habits of life, exercise, study and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise is required of all men three hours a week, from the middle of October to the middle of May. Exemption will be granted only on certificate from a physician designated by the Faculty Athletic Committee, the examination to be at the student's expense.

Three hours.

For Women—The aim of the work is to promote the general health and poise of the body. The work is based on a modified form of the Swedish System of gymnastics. It includes marching, tactics, free movements, Indian club and dumb-bell exercises, folk dancing, aesthetic dancing, organized games and out-of-door sports. In addition to the regular class exercises opportunity is offered to do individual work under the direction of the instructor. The gymnasium is conveniently located in Hulings Hall.

All women are required to take the prescribed work.

Exemption will be granted only on certificate from a designated physician, the examination to be at the student's expense.

Three hours.

Students exempted from these courses are required to elect an equivalent number of hours from other departments.

REQUIRED WORK.

For graduation in any Group, all work specified as required must be completed, and additional subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. In the senior year a thesis and an oration are required. But in the Groups leading to the B. S. degree two theses or a thesis and an oration may be presented.

Sixteen recitations weekly is the regular number, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours' work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

LIST OF ELECTIVES.

The following list of elective studies includes all subjects that are elective in any of the Groups. Some of the subjects are required in one or more of the Groups, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflicts in hours.

3. So far as possible all required work below his rank as well as Group Electives must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject. No credit toward graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5. The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the course of instruction found on pages 52 to 99.

	First Term.	Second Term.
Astronomy I	3	3
Astronomy II	..	2
Astronomy III	..	2

	First Term.	Second Term.
Astronomy IV	4	4
Biology I	4	4
Biology II	1	1
Biology III	4	4
Biology IV	4	4
Biology V	3	..
Biology VI	..	3
Biology VII	3	3
Biology VIII	3	..
Biology IX	4	..
Biology X	..	4
Biology XI	1	1
Biology XII	2	2
Chemistry I	4	4
Chemistry II	3	3
Chemistry III	4	4
Chemistry IV	2	2
Chemistry V	3	3
Chemistry VI	3	3
Chemistry VII	3	3
Chemistry VIII	4	4
Chemistry IX	3	3
Chemistry X	2	2
Chemistry XI	3	3
Economics I, II	3	3
Economics III, IV	2	2
Economics V, VI	2	2
Education I	3	..
Education II	..	3
Education III	..	3
English II	2	2
English III	2	2
English IV, V	3	3
English VI	..	3
English VII	2	..
English VIII	2	2
English IX	3	3
English X	3	3
English XI	3	..

	First Term.	Second Term.
English XII, XIII	2	2
English XIV	2	..
English XV	1	1
English Bible II	3	3
English Bible III	3	3
English Bible IV, V	3	3
English Bible VI, VII	3	3
French I	4	4
French II	4	4
French III	3	3
French IV	3	3
French V	3	3
French VI	3	3
French VII	2	2
Geology I	4	4
Geology II	3	..
Geology III	..	3
Geology IV	3	..
Geology V	..	3
Greek A	5	5
Greek I	4	4
Greek II	3	3
Greek III	3	3
Greek IV	3	3
Greek V	2	2
Greek VI	4	4
Greek VII	2	2
Greek VIII	2	2
Greek IX	2	2
Greek X	2	2
History I	3	3
History II	3	3
History III	2	2
History IV	2	2
History V	2	2
History VI	2	2
Italian I	3	3
Italian II	2	2
Latin A	5	..

	First Term.	Second Term.
Latin B	..	5
Latin I	4	4
Latin II	3	3
Latin III A	2	2
Latin III B	1	1
Latin IV	2	2
Latin V	2	2
Latin VI	2	2
Mathematics 1	4	4
Mathematics I A	4	4
Mathematics II	4	4
Mathematics II A	3	3
Mathematics III	3	..
Mathematics IV	..	3
Mathematics V	3	3
Mathematics VI	2	2
Philosophy I	..	3
Philosophy III	2	2
Philosophy IV	2	..
Philosophy VI, VII	2	2
Philosophy VIII	..	2
Philosophy IX, X	2	2
Philosophy XI, XII	2	2
Physics I	4	4
Physics II	1	1
Physics III	2	2
Physics IV	3	3
Physics V	4	4
Physics VI	2	2
Physics VII	3	..
Physics VIII	..	3
Political Science I, II	3	3
Political Science III, IV	2	2
Political Science V	2	2
Political Science VI	2	2
Public Speaking I	1	1
Public Speaking II	1	1
Public Speaking III	1	1
Public Speaking IV, V	2	2

	First Term.	Second Term.
Spanish I	3	3
Spanish II	3	3
Surveying and Graphics I	4	4
Surveying and Graphics II, III	3	3
Surveying and Graphics IV	3	3
Surveying and Graphics V	3	3
Surveying and Graphics VI	4	4
Surveying and Graphics VII	..	3

GENERAL INFORMATION.

COLLEGE FEES.

All students pay a fee of $125 a year, $65 payable at the opening of the first term and $60 at the opening of the second term. This includes incidental, library, and gymnasium fees.

In the laboratories the following fees are charged each term:

Astronomy I, II	$ 2.00
Astronomy IV	7.50
Biology I	2.00
Biology III and IV	4.00
Biology V and VI	3.00
Biology VII, IX and X	7.50
Biology VIII	3.00
Chemistry I	4.00
Chemistry II, III, VI, VII, VIII	7.50
Chemistry IV, IX	5.00
Education III	1.00
Geology I, II, V	2.00
Geology IV	6.00
Philosophy III	1.50
Physics I	3.00
Physics IV, V, VII, VIII	5.00
Surveying I	2.00
Surveying II, III, IV	3.00

In addition, breakage of material is charged at actual cost.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for. No fees are returned except in case of sickness.

LIVING EXPENSES FOR MEN.

The young men of the college board in Cochran Hall, in fraternity chapter houses, or in private families. The cost of board in Cochran Hall is $180.00 a year. The cost in chapter houses and private families is, as a rule, ten to twenty-five per cent. more. One-half the room rent in Cochran Hall is due and payable at the opening of the first term and one-half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half-year's payment. The rate for rooms varies from forty-five to eighty dollars a year for each student. All rooms are to be surrendered not later than noon on Monday of Commencement Week. The amount for board in Cochran Hall is due as follows: $45.00 at the opening of the year; $45.00 on the second Monday in November; $45.00 at the opening of the second term; $45.00 on the third Monday in April. If the student has a roommate, the necessary expenses for a year will fall within the following estimates:

	Low.	Liberal.
Term and laboratory fees	$125.00	$165.00
Room rent, fuel, light	45.00	80.00
Table board	180.00	200.00
Books	15.00	40.00
Total	$365.00	$485.00

Expenses other than those enumerated depend largely upon the student's tastes and habits, and the college does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more. This,

of course, does not include traveling or personal expenses. An economical student can live on $390 a year.

A circular detailing the expense of living in Cochran Hall will be sent on request.

FOR WOMEN.

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors; and young women have access to all departments of the college, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The hall is under the charge of the Dean of Women, whose influence, as well as that of her competent assistants, is constantly felt in the social, moral, and religious development of the young women under her care.

For the proper maintenance of the hall as a college home for young women, certain specific rules are essential; but it is the policy of the college to make only such regulations as will best protect the interests of those who reside there.

The rules governing the conduct of the young women of Hulings Hall were carefully drawn up by

the administration of the college and the Dean of Women, and by action of the faculty were entrusted to the Student Government Association of the hall, which assumes the responsibility for the observance of all rules and regulations. Thus under the guidance of the Dean of Women and the executive board of the Association, the young women of the hall are given individual and community responsibility for their conduct in college life. A copy of the regulations for the government of the hall will be sent on request.

The residents of the dormitory maintain in the building the services of a resident trained nurse. This valuable addition to the hall life has been justified by the better conditions for health and comfort afforded the young women. For this purpose an assessment of a five dollar house fee is made payable at the beginning of the year.

The rooms are furnished with single beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: sheets, pillow-cases, bed covering, towels, and napkins.

The rates by the year, including board, room, heat, and light, are $275.00 for each student. The rooms are all double, so that two students occupy each room. In case a student desires to room alone, there is an additional charge of $50.00. Bills are payable in four installments at follows: $80.00 at the opening of the year, $75.00 on the second Monday in November, $70.00 at the opening of the second term, and $50.00 on the third Monday in April. A deposit fee of $10.00 is required when a room is reserved. This fee is credited on the last payment of the year.

AID TO STUDENTS.

Self-Help—Young men help themselves in severa ways. A considerable number of the present student are earning their expenses in whole or in part. Som are employed in light work connected with the col lege or the boarding clubs. Others find in town oppor tunities for work of various kinds. A few are servin churches in the neighborhood of Meadville. It is th policy of the college to help students who help them selves.

The Lindley Endowment—By the will of the lat Miss Lucy Lindley, of Meadville, the college receive the sum of ten thousand dollars, the interest of whic is used to assist students dependent upon their ow efforts to obtain an education. Application for ai from this fund should be made to the President. I should be remembered, however, that only a limite number of students can be aided in this way.

The Ballantyne Scholarship Fund—In 1904 Mrs Hettie F. Ballantyne, of Pittsburgh, gave to the col lege thirty thousand dollars in memory of her hus band, James Alexander Ballantyne; the fund is know as the James Alexander Ballantyne Scholarship Fund The income is used to pay the college term fees, and i cases of need, certain other expenses, of the sons an daughters of ministers of the Pittsburgh Conference and of young men from within the bounds of that con ference who are studying for the ministry. This fun is administered by the officers of the college faculty o recommendation of a committee of the Pittsburg Conference.

The George W. Wright Scholarship Fund—This i a gift of $1,000 from the Honorable George W

Wright, of Mercer, Pa., a former student of Allegheny College. The proceeds of this fund are to constitute a scholarship to be awarded each year on the nomination of Mr. Wright's representative.

High School Scholarships—The Board of Trustees has established prize scholarships of fifty dollars each, to be awarded each year to honor students in the best high schools in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must go to the one having maintained the highest scholastic rank during his high school course; if the class numbers more than ten and less than twenty-five, it may go to the first or second in rank; and if there are over twenty-five in the class, the scholarship may go to any one of the highest three. The amount of the scholarship is credited toward the payment of the fees of the freshman year.

Educational Society Loans—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. The loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference. The loans are made by the Society on the recommendation of the faculty.

No aid from the above mentioned funds, or from any other source, is given to students who use tobacco.

A student having received aid from any of the college funds will be given a letter of dismissal to enter

another college only after all such aid shall have been returned.

RELIGIOUS CULTURE.

The college was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

Chapel services are held each morning and all students are required to be present. Regular attendance on Sunday mornings at some church, selected by the student, or his parents, is also expected. Prayer meetings are held on Wednesday evening of each week. The results are manifest in the quickening and strengthening of many in the religious life.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Bible study classes and a mission study class are well attended.

The religious influence of the college is not in any sense sectarian, but Christian. On the rolls this year are representatives from seventeen Christian denominations.

THE ADVISER SYSTEM.

Each student on entering chooses some member of the faculty, who serves throughout the freshman year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be

perfectly fraternal, without restraint on either side. At the beginning of the sophomore year the professor under whom the student chooses to do his major work becomes the student's adviser for the remainder of the course.

HONOR SYSTEM.

All college examinations and quizzes are conducted under an honor system, by which the presence of instructors in the room is dispensed with, and the student is placed on his honor. The following signed declaration is required to make the examination valid: **"I hereby declare on my honor that I have neither given nor received aid in this examination."**

All cases of suspected fraud are dealt with by the Student-Honor Committee, who are authorized to decide on the question of guilt and to recommend to the faculty that a senior, junior, or sophomore found guilty of a first offense, and a freshman found guilty of a second offense, be dismissed from college.

CLUBS.

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members along the lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the college. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Philo-Franklin Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate. The society is under the guidance of representatives of the departments of English and Public Speaking.

Le Petit Salon meets monthly for the purpose of French conversation and study of French art, literature, etc. Its alternate sessions are in conjunction with the Meadville branch of the Alliance Francaise, an international organization. The membership is limited to thirty and includes the instructors and advanced students in French.

The Modern Problems Club, under the guidance of the department of History and Economics, meets monthly for the discussion of current social, economic, and political problems. This club, which is a branch of the Intercollegiate Civic League, is limited to juniors and seniors.

The Tingley Biological Club, composed of instructors and advanced students in the Biology department, meets fortnightly for the presentation and discussion of papers by the various members; each member presents two papers a year dealing with some phases of biological research.

The Thoburn Club is an organization composed of such men of the college as are fitting themselves for the ministry, missionary work, Young Men's Christian Association service, or any other public religious activity. It brings to the college each year a number of

lecturers on such subjects as would naturally appeal to the membership; and holds monthly meetings for social intercourse, intellectual debate, and religious stimulus. It is in close alliance with the Thoburn Chair of English Bible and Philosophy of Religion. For many years it has been one of the best known religious forces in the college.

JOHN C. STURTEVANT MEMORIAL FOUNDATION.

By a gift of a fund of $5,000, Mr. Paul Sturtevant, '99, and Mr. Watkin P. Sturtevant, '06, have established a Lectureship Foundation in memory of their father, Hon. John C. Sturtevant. The income from this fund is used in providing lectures by eminent men on topics of general interest.

Lectures under the auspices of the Foundation have been given during the year 1918-19 by the following:

Eli Benedict, "Miracles in Stone."

Talcott Williams, LL.D., "A New Era in Democracy; Journalism and Democracy."

Thomas E. Tallmadge, "Architectural Milestones."

Dean Andrew F. West, Ph. D., LL.D., "General and Professional Education; The Humanities After the War."

HONORS.

At Commencement of each year Honors are awarded as follows:

Graduation Honors.

Seniors who have had no grade less than A during their entire college course are awarded "summa cum laude." All other seniors who have had no grade less

than B and have maintained an average of A are awarded "magna cum laude." All other seniors who have had no grade less than C and have maintained an average of 88 are awarded "cum laude."

Class Honors.

In each class students who have had no grade less than B during the year and who have maintained an average of A are awarded "First Honors." Other students who had no grade less than C and have maintained an average of 88 are awarded "Second Honors."

PRIZES.

Four annual prizes are open for competition among the students of the college classes.

The Wakefield Oration Prize—Mr. James A. Wakefield, of Pittsburgh, offers a prize of fifty dollars in the name of his grandfather, the Rev. Samuel Wakefield, D.D., awarded in February of each year to the young man delivering the best oration. The winner of this prize represents the college in the Intercollegiate Civic Oratorical League Contest held in May.

The Philo-Franklin Oration Prize—The old Philo-Franklin Literary Society has secured a permanent endowment fund of six hundred dollars for prizes in oratory. The income provides a first and second prize. The contest is open only to members of the Philo-Franklin Forum.

Heckel Prizes in Science—Two prizes, a first prize of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburgh. These prizes are awarded for the best

two theses written by graduate or undergraduate students upon scientific subjects. The theses are presented on the first day of May and the prizes awarded on the following Commencement Day.

Ballinger and Siggins Prize—A prize of twenty-five dollars is offered by Messrs. Ballinger and Siggins, of Meadville, to be given each year to that member of the senior class who has shown unusual excellence in chemistry, under terms agreed upon by the donors and the head of the department of Chemistry.

ATHLETICS.

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all men of the college are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. By an arrangement voluntarily entered into by the students, all young men pay $5.00 and all young women $3.00 for the support of athletics. For this they receive season tickets to all games. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be *bona fide* students taking not less than twelve hours work; must have been registered at the opening of the year in which they compete; may not have more than one condition, or be delinquent in the current term's

work; and may not receive remuneration, directly or indirectly, for their services. The college is a member of the National Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES.

The degree of Bachelor of Arts is conferred upon students who complete in a satisfactory manner the requirements under any one of the A. B. Groups. The degree of Bachelor of Science is conferred upon students who complete in a satisfactory manner any one of the Science Groups.

Bachelors of Arts of this college may pursue, in residence, work in not more than two distinct lines of study; and on the completion of a full year's work, including a satisfactory thesis, receive the degree of Master of Arts.

The degree of Master of Science is conferred upon Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the college pays a diploma fee of five dollars.

REGISTER OF STUDENTS.

Graduate Students.

Adams, Helen R. ..... Meadville
A.B., Allegheny, 1916—Latin

Hill, Paul Emerson ..... Emlenton
B.S., Allegheny, 1917—Chemistry

Stewart, John A. Mueller ..... Beaver
A.B., Allegheny, 1912—Biology.

Seniors.

Abrams, Helen Ruth ..... Jamestown, N. Y.
Baldwin, Joseph Silliman ..... Washington, D. C.
Barr, Glenn Ross ..... Marienville
Brooks, Leda Sussanna ..... Geneva
Chapin, Margaret Oakes ..... Union City
Clouse, Mary Musette ..... Geneva
Cook, Mack Dickson ..... Ashtabula, O.
Curry, Ethel Virginia ..... Meadville
Deutsch, Arthur Watson ..... Meadville
Doane, Arthur W. ..... Meadville
Downing, Helen Louise ..... Meadville
Eberlee, Stanley Lee ..... Cattaraugus, N. Y.
Edwards, Cecil Asenath ..... Oil City
Falkinburg, Rae Edgar ..... Meadville
Faulkner, Robert Lee ..... Wattsburg
Filer, Enoch Crawford ..... Greenville
Fithian, Ruth ..... Butler
Francis, Marie Louise ..... Columbus
Gates, Claire E. ..... Oil City
Hall, Earl Dewey ..... Meadville
Hamilton, Mary Eleanor ..... Akron, O.
Hammon, Fletcher Horace ..... Pittsburgh
Heckman, Edward ..... Meadville
Hodgkinson, Aileen Hayes ..... Meadville
Horth, Inda Arlene ..... Meadville
Horth, Pearl Helen ..... Meadville
Houghton, Margaret Martha ..... Barnes
Johnson, Vesta Irene ..... Meadville
Jones, Charles Luther ..... Pittsburgh

Kelly, Mary Agnes ..... Meadville
Kirkpatrick, Francis Earl ..... Butler
Lackey, Scott Richard ..... Stoneboro
Lewis, Virginia Whitney ..... Moundsville, W. Va.
Leyda, Henrietta Elizabeth ..... Oil City
Longanecker, Judson D. ..... Carmichaels
McCabe, Edna Carr ..... Ben Avon
*McCloskey, Rodney Smith ..... Meadville
McCurdy, Harold Adams ..... Mercer
Martin, John Owen ..... Charleroi
Miller, Ruth Pauline ..... Meadville
Monroe, Gertrude Elnora ..... Corry
More, Hattie Susan ..... Youngsville
Morrow, Frank William ..... Union City
Muckinhoupt, Harry Bryan ..... Meadville
Neal, Meredyth ..... Union City
Patterson, Gordon Derby ..... Meadville
Reniers, Nellie Kinkead ..... Pittsburgh
Rhodes, Marjorie ..... New Castle
Richard, Ida Lucile ..... Meadville
Rishell, Madeleine Louise ..... Johnstown
Root, Louise Adaline ..... Cambridge Springs
Salchow, Serena ..... North East
Spangle, Charles William ..... Dunkirk, N. Y.
Stetson, George Arthur ..... Cambridge Springs
Stewart, F. Leslie ..... Franklin
Stockdale, Doris Marjorie ..... Stockdale
Stri.kland, Helen Jeannette ..... Cattaraugus, N. Y.
Thoburn, Crawford Bennett ..... Meadville
Volk, John P. ..... McKeesport
Walker, Charles Lenwood ..... Mt. Pleasant
Welker, Roy A. ..... Union City
White, Marian ..... Kittanning
Widdowson, Olevia Rebecca ..... Mahaffey
Wiltsie, Harold Martin ..... Ashville, N. Y.
Winkler, Henry Rump ..... Franklin
York, Zella Marion ..... Corry
Zehrung, Winfield Scott ..... Meadville

Seniors, 67.

*Deceased.

Juniors.

Allgood, Ella Maxine ..... Tionesta
Armagost, Leo Arnold ..... Venango
Baker, Maude Carmeleta ..... Ruffsdale
Baum, Wesley Farber ..... Dawson
Beatty, Othello Ziegler ..... Butler
Benson, Gilbert ..... Falconer, N. Y.
Bollinger, Giles Mallalieu ..... Meadville
Booth, Edwin Prince ..... Charleroi
Brown, Durward Belmont ..... Wheeling, W. Va.
Carew, Elizabeth ..... Erie
Carroll, Kathryn ..... Meadville
Clothier, Reverdy Mead ..... Silver Creek, N. Y.
Davis, Helen Marie ..... Woodlawn
Dickey, Harold Westlake ..... Oil City
Diefenderfer, Florence Marguerite ..... Conneaut, O.
Dunn, David Compton, Jr. ..... Meadville
Dunn, Harriet May ..... Connellsville
English, Floyd Wilbur ..... DuBois
Evans, Dorothy Magdalene ..... Erie
Freer, Jean ..... Marion, O.
Gamble, Doris Ray ..... Warren
Gibbons, Florence ..... Sharon
Gordon, Wendell Brown ..... Pittsburgh
Green, Ellen Frances ..... Conneaut, O.
Hager, Alice Mae ..... Uniontown
Hall, Helen Dorcas ..... Warren
Henderson, Joseph Hugh ..... Vanderbilt
Hoover, Leonard Hyskell ..... Irwin
Humes, John Jackson ..... Johnstown
Hurst, Alfred Russell ..... Sewickley
Jenkins, Susan Marie ..... Butler
Judd, Cleaveland Chester ..... Meadville
Kahle, Loren J. ..... Oil City
Karsh, Ella Henrietta ..... Erie
Kerr, Norwood William ..... Meadville
King, Helen Elizabeth ..... Uniontown
Laffer, Cornelius Callender, Jr. ..... Meadville
McCafferty, Thomas Bowles ..... Allison Park
McClelland, Charles Kenneth ..... Meadville

McKinney, Gladys Ellene ..... Meadville
McMurren, Elmer LeRoy ..... Edinboro
Megahan, Howard Dougan ..... Wilkinsburg
Meredith, George Frederick ..... Pittsburgh
Miller, Helen Duffield ..... Franklin
Miller, Louis Alfred ..... Meadville
Nelson, Anna ..... McKeesport
Newmaker, Edith Louise ..... Warren
Norton, Arthur Leroy ..... Phalanx Station, O.
Pappenhagen, Florence Elizabeth ..... Meadville
Pierson, Leon Dewey ..... Warren, O.
Piper, James Young ..... Johnstown
Potter, Edith Prescott ..... Turtle Creek
Preston, John Francis ..... Monessen
Raymond, Gladys Marie ..... Meadville
Robinson, Alice Beryl ..... New Florence
Roudebush, Marjorie Eloise ..... Meadville
Rowley, Richard Floyd ..... Pittsburgh
Sabalot, Felicie ..... Bordeaux, France
Smith, Laurence Victor ..... Meadville
Terpening, Marguerite ..... Edinboro
Thomas, Gertrude ..... Meadville
Zearley, Lillian Ruth ..... Uniontown

Juniors, 62

Sophomores.

Andrews, Helen Elizabeth ..... Conneaut Lake
Baldwin, Roger Lee ..... Washington, D. C.
Bartlett, Mary Zeva ..... Polk
Belknap, Claribel Avis ..... Erie
Blass, Marguerite Elizabeth ..... Erie
Blodgett, Warren Pierce ..... Fredonia, N. Y.
Bollinger, Alice Belle ..... Meadville
Brock, John Warren ..... Waynesburg
Brown, Marjorie Elizabeth ..... Meadville
Brownell, Carolyn ..... Meadville
Brunner, Gladys Harriet ..... Cleveland, O.
Brumbaugh, Inez ..... Franklin
Burns, Harland M. ..... Meadville
Campbell, Louden Lee ..... Wilkinsburg
Carney, William Joseph ..... Erie
Cawthorne, Harold J. ..... Linesville
Clark, Earl C. ..... Meadville
Cleveland, Margaret ..... Erie
Colley, Thomas Edward ..... DuBois
Curry, Dorothy Mae ..... Meadville
Dean, Marjorie ..... Portland, N. Y.
Dickson, Francis Harmon ..... Ashtabula, O.
Dunbar, George F. ..... Jamestown, N. Y.
Dunn, Clarence Shaffer ..... Meadville
Dwyer, Paul Sumner ..... Kittanning
Ellsworth, Robert Henry ..... Meadville
Farley, Harry Patrick ..... Meadville
Fehr, Elizabeth Gertrude ..... Aspinwall
First, Frances Hester ..... Conneaut Lake
Fix, E. Lester ..... Meadville
Fogo, Joseph Ross ..... Wellsville, O.
Francis, Thomas, Jr. ..... New Castle
Glassman, Abe ..... Warren
Gold, Helen Elizabeth ..... New Brighton
Graham, Nancy Catherine ..... Franklin
Grant, Willard ..... Meadville
Grenelle, Alice Lydia ..... Rochester, N. Y.
Haine, Harold Huntley ..... Warren, O.
Hart, Raymond Lawrence ..... Saltsburg

Hartman, Marlin Wallace ..... Erie
Haynes, Irene Eleanor ..... Springwater, N. Y.
Head, John Dudley ..... Harmonsburg
Helmlinger, John Dyer ..... Pittsburgh
Henderson, John Frederick ..... Wellsville, O.
Hilderbrand, Mary Dunlap ..... Wampum
Homan, Earl Wilson ..... Kansas City, Mo.
Iams, Merrill Brown ..... Girard
Irvin, Robert Lintner ..... Meadville
Jelbart, Charles Butler ..... Meadville
Kerr, Dorothea ..... Meadville
Kinnear, James Wesley, Jr. ..... Pittsburgh
Kramer, Arthur ..... Meadville
Krueger, Irwin Carl ..... Erie
Kruse, Edna Dorothy ..... West Valley, N. Y.
Laffer, Frederick Sackett ..... Meadville
Leaf, William Newton ..... Rochester
Leberman, Gordon ..... Meadville
Leberman, Selden L. ..... Meadville
Leffingwell, Victor ..... Meadville
Lermann, Ruth T. ..... Monessen
McAllister, Irene ..... McKeesport
McCluer, Frederick William ..... Warren, O.
McCreary, John Charles ..... Monaca
McCune, Marguerite ..... Fayette City
McMahon, John Frederick ..... Vandergrift
Mathews, Neil Dale ..... Harmonsburg
Melcher, Webster DeWitt ..... Swissvale
Miller, Florence Agnes ..... Corry
Millhoff, Helen Rebekah ..... Johnstown
Morneweck, Carl D. ..... Greenville
Morrison, Marian ..... Meadville
Mossman, Harland Winfield ..... Portland, N. Y.
Nelson, Norman Patrick ..... New Castle
O'Neil, Alyse ..... Hamilton, N. Y.
Painter, Dale B. ..... Butler
Peters, Margaret Elizabeth ..... Meadville
Potter, Clyde David ..... Nebraska
Powney, Ethel Marian ..... Monessen
Prather, John Byron ..... Meadville

Reese, Edwin Wesley ..... Union City
Ritchie, DeVere ..... Starford
Roach, Dorothy Stover ..... Pittsford, N. Y.
Russell, James Oscar ..... Edgewood
Scannell, John ..... Athens
Schnell, Frieda Regina ..... North Tonawanda, N. Y.
Shuster, Helen Marguerite ..... Greensburg
Sjoberg, Ruth Olivia ..... Jamestown, N. Y.
Speer, Harry ..... Meadville
Stanford, Madeline Natalia ..... Sheffield
Thoburn, Helen ..... Meadville
Thoburn, Wilbur Collins ..... Meadville
Thurston, Dorothy ..... Meadville
Titus, Margaret Ruth ..... Barnes
Traum, Wilhelmine ..... Meadville
Tuck, Gladys Marie ..... Cleveland, O.
Turner, Elizabeth ..... Freeport
VanDevander, Don Jackson ..... Pittsburgh
Webb, Paul Adam ..... Erie
Weckerly, Louisa ..... Meadville
Welty, James Alman ..... Meadville
Welty, Walter Hassler ..... Meadville
Williams, Justin Clement ..... Corry
Williams, Miriam Beth ..... Corry
Williams, Paul Harding ..... Punxsutawney
Wood, Ethel Muriel ..... Franklin
Wood, Gretchen Simon ..... Oil City
Zetler, Paul Alan ..... Hazelhurst

Sophomores, 107

Freshmen.

Abbott, Marjorie Christine ..... Minneapolis, Minn.
Acosta, Ramona Leonor ..... Sabana Grande, Porto Rico
Baldwin, Ellis Kennedy ..... Tidioute
Baldwin, Royal Millet ..... Corry
Barker, Walter Buell ..... Lakewood, N. Y.
Bates, Harry Gilmore ..... Philadelphia
Beattie, Alfred Wesley ..... Sharon
Bender, Albert Julius ..... Meadville
Bigler, Thelma Althea ..... Franklin
Bird, George Lloyd ..... Meadville
Bird, John Caraway ..... Meadville
Bishop, Morley Delamere ..... Andover, O.
Bittner, Guy Clement ..... Meadville
Bly, Lucile Mildred ..... Jamestown, N. Y.
Bole, Robert Greenhalgh ..... Venango
Booth, George ..... Charleroi
Brevoort, Maurice John ..... Sinclairville, N. Y.
Britton, Winifred Clare ..... Braeburn
Brown, Lena Mae ..... Meadville
Brown, Linnie Winsome ..... Cochranton
Brown, Marguerite Christina Cameron ..... Pittsburgh
Brown, Martha Priscilla ..... Tionesta
Bushyager, Glenn Ray ..... Jeannette
Carlson, Sidney H. ..... Lakewood, N. Y.
Carnahan, Donald Evans ..... Monongahela City
Cassidy, Blake Beach ..... Gillette, Wyo.
Challener, William Albert ..... Pittsburgh
Chapin, Morris Ezra ..... Union City
Chapin, Norris Walter ..... Union City
Charlton, Emily Marie ..... Meadville
Clark, Zelith Alfonzo ..... Cochranton
Collins, Lorna Varene ..... Centerville
Collom, Harold Liberty ..... Meadville
Conroe, John Sidney ..... Cambridge Springs
Cook, Elmer J. ..... McKeesport
Cooley, Nancy Mary ..... Cereal
Coombs, Henriette Virginia ..... Woodlawn
Cornell, Owen Montague ..... Wattsburg
Coulter, Sara Eleanor ..... Butler

Crandall, Evelyn Estelle ..... Edinboro
Croasmun, Nathan William ..... Marienville
Crooks, Esther Irene ..... Oil City
Crumrine, Kennedy, Jr. ..... Meadville
Curtiss, Florence Luella ..... Meadville
Dale, Horace Darlington ..... Franklin
Dalrymple, Allan Homer ..... North Warren
Davies, Samuel Eugene ..... Oil City
Davis, Verne Wilson ..... North Braddock
Deichman, George A. ..... Saegertown
Drake, Lucile ..... Meadville
Duff, Glee A. ..... McKeesport
Dunkle, Cyrus Grant ..... Pittsburgh
Dusenbury, Marion ..... Conneaut, O.
Dye, Ralph William ..... Sandy Lake
Eagye, Vernon Spahr ..... Charleroi
Eastman, Donald Lang ..... Union City
Eaton, Hamblen Cowley ..... Warren
Ellis, Mildred Frances ..... Meadville
Fink, Elouise ..... Cambridge Springs
Fleming, Stella Helen ..... Cochranton
Frable, Margaret Catherine ..... Latrobe
Frazier, David Wilson ..... Conneautville
Galbreath, Ida Myrtle ..... Leetonia, O.
Gealy, Mary Evelyn ..... Oil City
Gearhart, Verda ..... Johnstown
Gerdon, James Louis ..... Meadville
Gibson, John Arthur, Jr. ..... Butler
Glassman, William ..... Warren
Gordon, Alexander Wayne ..... Pittsburgh
Grant, Ruth ..... Parker's Landing
Graves, Clifford William ..... Harrisburg
Halverstadt, Myra Adella ..... Lisbon, O.
Hamilton, Marion Margaret ..... Conneautville
Hammerton, Olive Fitz-Randolph ..... Meadville
Hanna, Joseph Lawrence ..... Sharon
Heath, Glenn ..... Meadville
Hendershot, Mary Pigot ..... Meadville
Henry, Mary Grace ..... Aspinwall
Himebaugh, John Walter ..... Meadville
Hitchens, Fred Stentz ..... McKeesport

Hitchens, George Edward ..... McKeesport
Hodgson, Wilfred Christy ..... Turtle Creek
Hopkins, Miles Waid ..... Erie
Horne, Thomas Brinker ..... Pleasant Unity
Houser, Gertrude Katherine ..... Meadville
Hovis, Genevieve McKean ..... Clintonville
Hovis, Josephine Lucile ..... Clintonville
Hulin, Louise Marion ..... Franklin
Iffert, Robert Earl ..... Greenville
Inman, Edward Ray, Jr. ..... Franklin
Irons, Lewis Elson ..... Wellsville, O.
Jeffrey, Bess ..... Tranger
Jelbart, Charlotte Abigail ..... Meadville
Johnson, Isabel McGilvray ..... Meadville
Jenkins, Paul Whistler ..... Butler
Jones, Hiram Arthur ..... Beaver
Jordan, William Edward, Jr. ..... Woodhaven, N. Y.
Jubelirer, Harold Isaac ..... McKeesport
Kamerer, James William ..... Greenville
Kelly, Robert H. ..... Meadville
Kendall, William Downs ..... Lakewood, N. Y.
Kennedy, Inez Alberta ..... Oil City
Kennedy, William Christie ..... Sharon
Kerr, Ethel Sarah ..... Oil City
Kirkpatrick, David D. ..... Butler
Kofford, Maurice E. ..... Clarendon
Krebs, William Henry ..... Gowanda, N. Y.
Kunselman, Everett Burke ..... Verona
Lamon, Margaret Louise ..... New Kensington
Lander, Wilma Elizabeth ..... Monessen
Lanson, Freeman Arthur ..... Tionesta
Larsen, Doris ..... Warren
Leberman, Harold Davis ..... Meadville
Leeper, Dorothy Stevenson ..... Terrace
Leffingwell, Guerdon Elisha ..... Meadville
Leffingwell, Harold Randall ..... Meadville
Lillie, Marjorie Eleanore ..... Ripley, N. Y.
Limber, Ralph Clark ..... Sheakleyville
Lindstrom, Marjorie Emelia ..... Jamestown N. Y.
Lorz, Florian Joseph ..... Meadville
MacGowan, Leonard Franklin ..... Smethport

MacLaren, Elisabeth Aelene ..... Warren
McCausland, James ..... DuBois
McClure, William Harold ..... Johnsonburg
McCreary, Thomas William, Jr. ..... Monaca
McKinney, Dorothy Mellen ..... Meadville
McMahon, Helen Louise ..... Meadville
McMillin, Coral Frances ..... Meadville
Magee, Harry Hudson ..... Pittsburgh
Maitland, Henry Merrill ..... Franklin
Maitland, William Howard ..... Franklin
Mansfield, Malcolm Arnold ..... Meadville
Merriman, Ralph Carnegie ..... Wellsville, O.
Miner, Mary Elizabeth ..... New Castle
Morrissey, John Wesley ..... Meadville
Mull, Frank Herbert ..... Jeannette
Mumaw, John Martin ..... Scottdale
Murch, Clifton Yendley ..... Erie
Murphy, Daniel Joseph ..... Erie
Neely, Clarence Herbert ..... Franklin
Neigh, Ralf Lowry ..... Dunkirk, N. Y.
Niles, William Henry ..... Springwater, N. Y.
Osborne, Homer Andrew ..... Franklin
Parent, Fernand Noel ..... Charleroi
Parker, D. LaVerne ..... Avalon
Peabody, Sarah Mary ..... Springwater, N. Y
Pitt, Harriette Frances ..... Ripley, N. Y.
Pollock, John Thomas ..... Charleroi
Pollock, Miles ..... Strawberry Ridge
Postance, Alta Lucile ..... Meadville
Potter, William David ..... Turtle Creek
Pringle, Gail Willard ..... Franklin
Proper, John Bowman ..... Tionesta
Redman, Anna Royal ..... Braddock
Reed, Truman Perkins ..... Oil City
Richey, William Harold ..... Vandergrift
Roach, John Stover ..... Pittsford, N. Y.
Rogers, Harriett Catherine ..... Meadville
Rogers, James Arden ..... Meadville
Rose, Helen Amanda ..... Girard
Runninger, Grace ..... Franklin
Russell, Marion Edward ..... Falconer, N. Y.

Schall, Martha Elisabeth ..... Vandergrift
Secor, Ralph Brunner ..... Ridgway
Shewman, Alon Watson ..... Tionesta
Shreve, Malcolm Owen ..... Erie
Shumacher, Cecil Maynard ..... Meadville
Siggins, Morris Frank ..... Meadville
Smith, Douglas Peter ..... Warren
Smith, Earl Jennings ..... New Castle
Smith, Frederick Edward ..... Meadville
Spangler, Casper Schott ..... Pleasantville
Speakman, Raymond Marshall ..... Exposition Park
Steele, Mildred Glendine ..... Meadville
Stewartson, Gertrude Irene ..... Dormont
Stilson, Alden Earl ..... Richmond Hill, N. Y.
Stokes, Charles George ..... Meadville
Stoner, Mildred Louise ..... Scottdale
Stroup, Florence ..... Ashtabula, O.
Stuntz, Gertrude ..... Girard
Summ, Walter H. ..... Edgewood
Swanson, Ethel Margaret ..... Sheffield
Swanson, Walter P. ..... Ridgway
Tannehill, Norman Bruce ..... Scottdale
Terrill, Joseph Lorence ..... Meadville
Theuerkauf, Frank Joseph ..... Erie
Theuret, Ralph Alfonso ..... Meadville
Trezise, Albert Edward ..... DuBois
Tuck, Ruth Adele ..... Cleveland, O.
Virtue, Kenneth Graeme ..... Guys Mills
Walker, Anna Jane ..... Bruin
Ware, Harold Glenn ..... Greenville
Warren, Milton Frederick ..... Linesville
Weaver, Ralph Holder ..... Carmichaels
Weller, Clara Mehitible ..... Springboro
Whitman, Lowell Acton ..... Espyville
Wilson, Elizabeth ..... Rochester, N. Y.
Wineman, Paul Raymond ..... Sharon
Woodard, Jessie Hill ..... Linesville
Wooley, Nelle ..... Scottdale
Worster, Dorothy Julia ..... Norwich
Yeager, Earl Leo ..... Niobe, N. Y.
Youngs, Howard Ellis ..... North East

Freshmen—203.

Special Students.

Angove, Walter Sidney ..... Oil City
Buchanan, Hugh Henry ..... Hastings, Nebr.
Owen, Llewelyn Arnold ..... Cambridge, Mass.
Trattner, Ernest Robert ..... Cleveland, O.

Specials, 4

Students' Army Training Corps, Not Otherwise Classified.

Anderson, Amos Carey ..... Cambridge Springs
Anderson, Charles J. ..... Conneautville
Anderson, George Dewey ..... Erie
Anderson, Graham Howard ..... Oil City
Bates, Harold Orville ..... Erie
Beringer, Clifford Owen ..... Cochranton
Beyer, Harry Fred ..... Ridgway
Black, Carl R. ..... Cambridge Springs
Black, Wilfred Leroy ..... Erie
Blakeslee, Lawrence Ray ..... Waterford
Bliley, Cassius Charles ..... Wesleyville
Brown, Charles H. ..... Pittsburgh
Burrows, Harry L. ..... Pleasantville
Camp, Harold Randolph ..... Sharon
Carrier, Gerald Burton ..... Warren
Caufman, Kenneth Charles ..... Girard
Channing, Gilbert Clarence ..... California
Chapman, John Vance, Jr. ..... Erie
Clark, Paul Abbott ..... Conneaut Lake
Cole, Philip Muse ..... Meadville
Cooper, George Frederick ..... New Brighton
Cornwell, Luther Marke ..... New Brighton
Courtney, Raymond Stephen ..... Guys Mills
Crawford, Emile Andrew ..... Meadville
Cullinan, James Henry ..... Warren, O.
Culp, Earl Minor ..... Wellsville, O.
Currier, Harold Vergil ..... Mercer
Dain, Wilson Willis ..... Pierpont, O.
Daniels, Walter Lee ..... Andover, O.
Davies, William Bennett ..... Sharon
Dawley, Bert Arthur ..... North East
Dennis, Karl Frederick ..... Conneaut Lake

Densmore, Clint H ..... Marquette, Mich.
Dewey, Emery Edward ..... Townville
Dill, Bertram F. ..... Brocton, N. Y.
Dole, Harold Stuart ..... Niobe, N. Y.
Drake, Ernest Cortell ..... Hingham Centre, Mass.
Ferguson, Andrew Devinney ..... Blairsville
Field, Russell Henry ..... Monongahela
Fish, Horton S. ..... Salamanca, N. Y.
Fitch, John Oliver ..... Sharon
Flanders, Fay William ..... Ashville, N. Y.
Fleming, L. R. ..... Cochranton
Fleming, Willard Frederick ..... Cochranton
Flygare, Carl Oscar ..... Westfield
Fox, Charles William ..... Brocton, N. Y.
Fox, Frederick John ..... Meadville
Fuller, Donald ..... Portland, N. Y.
Fuller, Glade G. ..... Springboro
Fuller, Guy Wiillam ..... Springboro
Gardner, Norman Randal ..... Johnsonburg
Goodrich, Basil DeWitt ..... Ellwood City
Goodrich, Charles David ..... Edinboro
Goodrich, Paul Bernard ..... Edinboro
Goodwin, Kennard Hill ..... Meadville
Gornall, Merle Fletcher ..... Bemus Point, N. Y.
Hehir, Donald William ..... Brocton, N. Y.
Hewes, Sidney Tucker ..... Mayville, N. Y.
Hickernell, James Wesley ..... Meadville
Hill, Howard C. ..... California
Hobart, Freeland Preston ..... Frewsburg, N. Y.
Holdridge, Fred Burnham ..... Warren
Holtz, John William ..... Pleasantville
Hopkins, James Harold ..... Edinboro
Hunter, Archie Nellis ..... Nebraska
Irving, Charles James ..... Cattaraugus, N. Y.
Jell, Harry William ..... Westfield, N. Y.
Johnson, Tracey Lloyd ..... Cattaraugus, N. Y.
Johnson, George Elmer ..... Marvindale
Johnston, Clair Crawford ..... Fort Wayne, Ind.
Kampmann, John Davis ..... Wellsville, O.
Kellogg, Elmer Okley ..... Cambridge Springs
Kennedy, A. Wayne ..... Warren, O.

Kilgore, Donald Edgar ..... Franklin
Kinney, John Raymond ..... Meadville
Kirschner, Gale Reese ..... Edinboro
Lapple, Charles Frank ..... Wesleyville
Larson, Carl John Emanuel ..... Hutchins
Lashells, Ralph Watson ..... Meadville
LaVere, Paul B. ..... Falconer, N. Y.
Lawson, John Edward ..... Brocton, N. Y.
Lewis, Miles Edward ..... Portland, N. Y.
Lingo, Chester Bentley ..... Guys Mills
Loper, Clark Milton ..... Hadley
Loper, Leon Earl ..... Cochranton
Lowther, Charles B. ..... Conneaut Lake
McClymonds, James Floyd ..... Albion
McComb, Arthur Lemont ..... Volant
McElroy, Paul George ..... Corry
McEntarfer, Clifford Abraham ..... Union City
McKinley, Samuel Walter ..... Meadville
McLaughlin, Edgar Brook ..... Everson
Marsh, Donell ..... Waterford
Maschke, Alfred Beck ..... Warren, O.
Mason, Robert Elliott ..... Oil City
Meese, Harold Frederick ..... Bradford
Menough, Walter Edward ..... Wellsville, O.
Miksch, Carlton Arnold ..... Monaca
Miksch, Harry Northwood ..... Monaca
Miller, Eugene Porch ..... Mt. Pleasant
Morneweck, Raymond Lee ..... Greenville
Moss, Ralph Slight ..... Conneaut Lake
Murray, Harold Thomas ..... Columbus
Nelson, Harold ..... Springfield, Mo.
Nevice, George R. ..... Erie
Ofensend, Merton Lee ..... Linesville
Olmsted, Howard Parker ..... Conneaut, O.
Patterson, Earle M. ..... Dawson
Pelton, Ralph S. ..... Lawrence
Peters, Edwin G. ..... East Springfield
Peterson, Dean Potter ..... Erie
Phifer, Roger Andrew ..... Memphis, Tenn.
Pierson, Paul Edward ..... North East
Porter, Albert James ..... Atlantic

Powell, Ralph Moore ..... Cochranton
Prall, Edward Carl ..... Franklin
Ralston, Paul Minnis ..... Conneaut Lake
Ross, Leo Edward ..... Albion
Sawdy, Herald Eugene ..... Andover, O.
Schachern, Leland John ..... Monaca
Schafer, Leonard Alvin ..... Warren, O.
Schott, Russell Christian ..... Frewsburg, N. Y.
Schreiner, Frederick O. ..... Johnsonburg
Scofield, Paul ..... Clark's Mills
Scott, William Lawrence, Jr. ..... Erie
Shallenberger, Sidney Stahl ..... Dawson
Sheehan, Merrill Esler ..... Cochranton
Sibley, Harold O. ..... Brocton, N. Y.
Simms, James Robert ..... Cambridge Springs
Skeels, Walter Simeon ..... Newark, N. J.
Speer, Joseph Earl ..... Meadville
Splitstone, Raymond William ..... Linesville
Stachewicz, Bernard ..... Erie
Sterbutcel, Michael Joseph ..... Everson
Stiles, Ralph Edward ..... Kane
Stoops, LeRoy Walker ..... Coraopolis
Stormer, Donald Moore ..... Oil City
Sullivan, William Stewart ..... Duke Center
Thomas, Terence W. ..... Meadville
Thompson, Charles Clifford ..... Conneautville
Thurston, Elwood Arthur ..... Franklin
Thurston, Harold Hill ..... Meadville
Tibbens, Parker R. ..... Franklin
Trambley, Percy Peter ..... Erie
Trask, Lloyd R. ..... McKean
Troutner, Paul C. ..... Cambridge Springs
VanDervort, Homer Brockett ..... Bristolville, O.
Wagner, Adrien Cornelius ..... Meadville
Weaver, Ivan N. ..... Akron, O.
Welsby, Clarence Burke ..... Oil City
Whitmyre, John Russell ..... Pittsburgh
Wright, Carlton Lynford ..... Granville Summit
Wright, Orin Milton ..... Spartansburg
Yunker, Nevin Arthur ..... Meadville
Zaverella, Raphael ..... Dunkirk, N. Y.

S. A. T. C., 155

SUMMARY.

	Men	Women	
Resident Graduates	2	1	3
Seniors	32	35	67
Juniors	32	30	62
Sophomores	64	45	109
Freshmen	130	73	203
Specials	4	..	4
Total	262	184	446
S. A. T. C. (not otherwise classified)	155	0	155
Grand Total	417	184	601

DEGREES CONFERRED.

MAY 7, 1918.

Master of Science.

Charles Arthur Aey
Ethel Stover Roach

Bachelor of Arts.

Humbert Bianchi
Grace Loar Brooke
Mark Clemant Brown
Ruth Brumbaugh
Georgia Edna Carr
John Granville Castle
Shih-fu Chao
Bryon Vito Travis Cline
Maude Elizabeth Copeland
Louise Ferguson Deens
Olive Sergeant Dowdell
Helen Cullum Easterwood
Myrtle Nina Elder
Esther Louise Emery
Eva Jannette English
Gustaf Evan Engstrom
Helen Pauline Fogo
Isabel Freer
Annetta Louise Gartner
Ruth Florence Hammerton
George Michael Hartung, Jr.
Paul Edward Hollingshead
Lillian Estelle House
Malcolm Francis Kelley
Hazel Bell Linn
Anna McCullough McConnell
Robert Emmett McCreary
Helen Elizabeth McLain
Isabelle Edith Marvin
Marion Frances Miller
Pearl Mondereau
Dorothy Winslow Nichols
Lena Marie Olson
Christine Pauline Rhoads
Mercedes Maria Salguero
Janet Haxton Simcox
Hallie Daniel Shorts
Norene Roberta Saxton
Martin James Scannell
Gertrude Alice Simpson
Sophia Adelaide Singley
Paul Abram Stearns
Mary Agnes Swaney
Mabel Elizabeth Walker
Irene Permilla Wood
Harry Lawrence Wissinger

Bachelor of Science.

Raymond Fowler Catherman
William Adam Hill
Ernest Jasper Kelley, Jr.
Paul Warren Lane
William Michael Pollard

AWARD OF HONORS.

Commencement, 1918.

GRADUATION HONORS.

Summa Cum Laude.

Esther Louise Emery

Magna Cum Laude

Eva Janette English — William Adam Hill

Norene Roberta Saxton

Cum Laude

Helen Cullum Easterwood — Robert Emmett McCreary

Hallie Daniel Shorts — Irene Permilla Wood

JUNIOR HONORS.

First Honors.

Inda Arlene Horth — Pearl Helen Horth

Gordon Derby Patterson.

Second Honors.

Mary Eleanor Hamilton — Virginia Whitney Lewis

Meredyth Neal — Nellie Kinkead Reniers

Louise Adaline Root — Winfield Scott Zehrung

SOPHOMORE HONORS.

First Honors.

Giles Mallalieu Bollinger — Susan Marie Jenkins

Charles Luther Jones — Zella Marion York

Second Honors.

Maude Carmeleta Baker — Harriet May Dunn

Dorothy Magdalene Evans — Gladys Ellene McKinney

Edith Louise Newmaker — Florence Elizabeth Pappenhagen

Richard Floyd Rowley — Lillian Ruth Zearley

FRESHMAN HONORS.

First Honors.

Alice Belle Bollinger — Helen Rebekah Millhoff

Helen Marguerite Shuster — Margaret Ruth Titus

Second Honors.

Mary Dunlap Hilderbrand — Ruth T. Lermann

Ethel Marian Powney — Wilber Collins Thoburn

PRIZES.

The Wakefield Oration Prize.

Charles L. Jones.

The Philo-Franklin Oration Prize.

Gilbert Benson.

The Heckel Prizes in Science.

First Prize, Paul Emerson Hill.
Second Prize, Raymond Fowler Catherman.

The Ballinger and Siggins Prize.

Paul Warren Lane.

PHI BETA KAPPA.

ETA CHAPTER OF PENNSYLVANIA

Chartered September 2, 1901.

OFFICERS.

President.

President William H. Crawford.

Vice President.

Hon. John J. Henderson.

Secretary.

Professor William A. Elliott.

MEMBERS INITIATED IN JUNE, 1918.

From the Senior Class.

Helen Cullum Easterwood
Esther Louise Emery
Eva Janette English
Norene Roberta Saxton
Hallie Daniel Shorts

THE SUMMER SESSION.

The Summer Session of Allegheny College will be held from Monday, June 23, to Saturday, Aug. 2. Instruction will be given every week day for the six weeks. For each course two term hours credit will be given, which will count toward a degree. For each entrance course one-half unit will be allowed, unless otherwise specified.

The plan of the summer school is to give work that will meet primarily the needs of the three following classes of students: (1) Teachers who may desire a better training for their work in the class room, or who are preparing to pass examinations required for the various teachers' certificates; (2) college students who may desire to obtain advanced college credits or to remove conditions, and even high school students desiring to remove entrance conditions for admission to college; (3) any person who may desire to enter the courses for the purpose of self-improvement. No requirements are necessary for admission, except that each professor will satisfy himself that the candidate is qualified to be admitted to his course.

Instruction will be given for the most part by the heads of the various departments. The courses will include the languages, the sciences, mathematics, history, psychology, and education.

A bulletin of the summer session detailing the various courses will be published about April 1, and will be sent on application. For information, address the Director,

C. F. ROSS,
Meadville, Pa.

INDEX.

Page

Admission, Requirements for 32
Adviser System 112
Aid to Students 110
Athletics 117
Board of Trustees 7
Buildings and Grounds 16
Calendar 5
Clubs 113
Committees of the Faculty 14
Courses of Instruction:
- Astronomy 54
- Biology 55
- Chemistry 59
- Economics 63
- Education 65
- English Bible 66
- English Language and Literature 69
- French Language and Literature 72
- Geology 73
- Greek Language and Literature 75
- History 78
- Italian Language and Literature 81
- Latin Language and Literature 82
- Mathematics 84
- Philosophy 86
- Physics 90
- Political Science 92
- Public Speaking 94
- Spanish Language and Literature 95
- Surveying and Graphics 96
- Physical Training 97

Degrees 118
Degrees Conferred 1918 136
Electives, List of 101
Expenses 107
Faculty 11
Fees 106
General Purpose 31
Historical Sketch 15
Honor System 113
Honors 115
Hulings Hall 108
John C. Sturtevant Memorial Foundation 115
Laboratories and Museum 22
Library 27
Location 15
Phi Beta Kappa 139
Prizes 116, 138
Register of Students 119
Required Work 100
Requirements for Graduation 48
Scholarships:
- The Ballantyne Scholarship Fund 110
- High School Scholarships 111
- The Wright Scholarship Fund 110

Special Students 131
Summary of Attendance 135
Summer Session 140

AH 1

THE COLLEGE BULLETIN

SERIES XIX, No. 1
FEBRUARY, 1920

CATALOGUE
1919-1920

1703

ALLEGHENY COLLEGE

FOUNDED IN 1815

ONE HUNDRED FIFTH YEAR

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1919-1920

MEADVILLE, PA.
1920

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED QUARTERLY
BY THE COLLEGE

SERIES XIX, No. 1
FEBRUARY, 1920

Entered as second-class matter in the postoffice at Meadville, Pa.

CATALOGUE FOR THE ACADEMIC YEAR 1919-20

AND ANNOUNCEMENTS OF COURSES FOR 1920-21

CONTENTS

	Page
Calendar	5
Board of Trustees	7
Faculty	11
Committees of the Faculty	14
Historical Sketch	17
Buildings and Grounds	18
Laboratories and Museum	24
Library and Reading Room	30
General Purpose	34
Requirements for Admission	35
Requirements for Graduation	51
Courses of Instruction by Departments	57
List of Electives	104
College Fees	109
Living Expenses	110
Hulings Hall	112
Aid to Students	113
Clubs	117
John C. Sturtevant Memorial Foundation	119
Honors	119
Prizes	120, 142
Athletics	121
Degrees	122
Register of Students	123
Degrees Conferred	139
Award of Honors	141
Phi Beta Kappa	143
The Summer Session	144
Index	145

1920

APRIL

S	M	T	W	T	F	S
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1921

JANUARY

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JUNE

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CALENDAR

1920.

April 13, Tuesday, 8:00 a. m.—Recitations Resumed.

24, Saturday—Founders' Day.

June 3-12, Second Term Examinations.

13, Sunday, 10:45 p. m.—Baccalaureate Sermon by President William H. Crawford.

5:00 p. m.—Vesper Service.

7:45 p. m.—Annual Sermon before the Christian Associations by the Reverend Charles Edward Locke, D.D.

14-15, Monday and Tuesday—Entrance Examinations.

14, Monday, 2:00 p. m.—Class Day Exercises.

4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.

5:00 p. m.—Concert by College Band.

8:00 p. m.—Commencement Concert by the College Glee Club.

15, Tuesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.

11:00 a. m.—Senior Farewell to Buildings.

11:30 a. m.—Business Meeting of the Alumni Association.

12:45 p. m.—Alumni Luncheon.

3:00 p. m.—Organ Recital by Dr. William C. Carl.

4:00 p. m.—Campus Pageant. Music by College Band.

8:00 p. m.—Phi Beta Kappa Address by Colonel Frederick Palmer.

9:15 p. m.—Band Concert and Illumination of Campus.

June 16, Wednesday, 9:30 a. m.—Commencement Exercises. Address by Bishop Charles Bayard Mitchell, LL. D.

1:00 p. m.—President's Luncheon.

6:00 p. m.—Fraternity Dinners.

21, Summer Session Begins.

July 31, Summer Session Ends.

SUMMER VACATION

Sept. 21, Tuesday—First Term Begins.
20-21, Monday and Tuesday—Entrance Examinations.
21, Tuesday—Registration of New Students.
22, Wednesday—Registration of Old Students.
23, Thursday, 8:00 a. m. —Recitations Begin.
Nov. 3, Wednesday—Last Day for Submitting Subjects of Senior Theses.
25, Thursday—Thanksgiving Day, a Holiday.
Dec. 3, Friday—Wakefield Oration Contest.
17, Friday, 12:00 m.—Recitations Close.

1921. CHRISTMAS RECESS.

Jan. 4, Tuesday, 8:00 a. m.—Recitations Resumed.
27-Feb. 4, First Term Examinations.
Feb. 4, Friday—First Term Ends.
8, Tuesday—Second Term Begins. Registration of Students.
9, Wednesday, 8:00 a. m.—Recitations Begin.
10, Thursday—Day of Prayer for Colleges.
22, Tuesday—Washington's Birthday, a Holiday. The College Dinner.
Mar. 1, Tuesday—Last Day for Submitting Senior Theses.
11, Friday—Philo-Franklin Oratorical Contest.
18, Friday, 12:00 m.—Recitations Close.

SPRING RECESS

Mar. 29, Tuesday, 8:00 a. m.—Recitations Resumed.
April 24, Sunday—Founders' Day.
June 15, Wednesday—Commencement.

BOARD OF TRUSTEES

Ex-Officio Trustees

His Excellency William C. Sproul
Governor of the Commonwealth

Hon. J. Hay Brown
Chief Justice of the Supreme Court

Hon. W. I. Schaffer
Attorney General

General Trustees

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John J. Henderson, LL.D., . . . Meadville
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James W. Kinnear, ... Pittsburgh
Gorton B. Chase, ... Greenville
Rev. Thomas H. Woodring, D.D., . Pittsburgh
Rev. Andrew C. Ellis, D.D., . . Meadville
Rev. William H. Crawford, D.D., LL.D., Meadville
Edward Appleyard, . . Jamestown, N.Y.
Wesley B. Best, ... Meadville
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John S. Craig, ... Pittsburgh
Austin Blakeslee, ... DuBois
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Arthur L. Bates, ... Meadville
Simpson S. Ford, ... Cleveland, O.
C. E. Welch, ... Westfield, N. Y.
Bishop James M. Thoburn, D.D., LL. D., Meadville
Sarah B. Cochran, ... Dawson
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Frank P. Miller, ... Meadville
John B. Ford, ... Detroit, Mich.
Harry C. McEldowney, . . . Pittsburgh

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Term expires January, 1921

JOHN A. GIBSON, A. M., ... Butler
IDA M. TARBELL, LL.D, ... New York

Term expires January, 1922

EDWARD B. HECKEL, M. D., . . . Pittsburgh
WILL N. RIDGE, ... New York

Term expires January, 1923

FREDERICK S. BREED, Ph.D., . . Chicago, Ill.
BENJAMIN A. HEYDRICK, A. M, . New York

Term expires January, 1924

ARTHUR W. THOMPSON, ... Pittsburgh
ANDREW A. CULBERTSON, ... Erie

Pittsburgh Conference Trustees

Term expires January, 1922

WILBUR P. GRAFF, ... Blairsville
A. T. MORGAN, ... Pittsburgh
EDWARD W. RYNEARSON, . . . Pittsburgh
JOHN W. VICKERMAN, ... Bellevue

Term expires January, 1923

W. S. HORNER, ... Pittsburgh
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Term expires January, 1924

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Term expires January, 1921

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Term expires January, 1923

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Term expires January, 1924

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Instructor in French

FRANK M. CLARK, M.S.
Instructor in Chemistry

HOWARD WHITE, A.M.*
Instructor in Political Science

HELEN R. ADAMS, A.M.
Graduate Assistant in Latin

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* For half year to fill vacancy.

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Professor Lee — Professor Henke
Professor Cobern

Courses of Study

Professor Elliott — Professor Ling
Professor Henke — Professor Schultz
Professor Church

Administration

The President — Professor Elliott
Professor Lee

Delinquencies

Dean Ross — Professor Henke
Professor Schultz

College Organizations

Professor Akers — Professor Rodick
Professor Ward

Social Functions

Professor Darling — Dean Ross
Dean Spalding

Fraternities

Professor Cobern — Professor Darling
Professor Elliott — Professor Ling
Professor Henke — Professor Ward

Library

Professor Elliott — Professor Schultz
Professor Peck

Graduate Instruction

Professor Darling — Professor Church

Theses

Professor Schultz — Professor Ling

Debate and Oratory

PROFESSOR HENKE PROFESSOR DARLING
PROFESSOR SWARTLEY

Athletics and Gymnasium

PROFESSOR LEE PROFESSOR HAMMETT
PROFESSOR WARD

Publications

PROFESSOR SCHULTZ PROFESSOR ELLIOTT
PROFESSOR RODICK

College Book Store

PROFESSOR LEE

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PROFESSOR ROSS PROFESSOR AKERS
PROFESSOR SWARTLEY

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DESCRIPTION OF THE COLLEGE

HISTORICAL SKETCH

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was the Rev. Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 the Rev. Martin Ruter, of the Pittsburgh Conference of the Methodist Episcopal Church, was elected to the presidency. The institution, while pronouncedly Christian, is conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage, on account of his religious views.

LOCATION

Allegheny College is located in Meadville, Pennsylvania, on the main lines of the Erie and the Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of about fifteen thousand. It is an old, well-established town, with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town it has few of the disadvantages of city life. It has most of the advantages of a city, such as paved streets, an effective sewerage system, an abundant supply of

wholesome water from driven wells, arc and incandescent electric lights, natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of wild and rugged ravines of exceeding beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of botany and geology.

BUILDINGS AND GROUNDS

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred fifty feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with cement walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the college.

Bentley Hall bears the name of the Rev. William Bentley, D.D., of Salem, Massachusetts, who gave his valuable library to the college. The corner stone was laid in 1820. It consists of a central three-story

building with tower, and two wings with massive pillars. The building contains the administration offices of the college and recitation and lecture rooms. The third floor is devoted to the halls of the Philo-Franklin Forum and the musical societies.

Ruter Hall, which bears the name of the Rev. Martin Ruter, D.D., the second president of the college, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the college. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the department of Mathematics and Surveying. The third floor, occupied by the department of Philosophy and Education, contains a lecture room, two laboratories, two offices, and a store room.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women and accommodates about ninety. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has recently been almost entirely refurnished. The rear wing of the building contains on the fourth floor five large society halls; the first and second floors are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is finished throughout in Georgia pine. It is provided with a full equipment of modern apparatus. In the basement are dressing rooms and baths.

An annex to Hulings Hall is now in process of erection. In form and size it will correspond to the

front of the present building. The first floor will contain a beautiful colonial dining room which will accommodate two hundred. The annex will have a standard elevator which will connect with all floors. There will be a new entrance to the building on the Park Avenue side, with porte-cochère and enclosed porch one hundred feet in length. Hulings Hall, when this annex is completed, will accommodate one hundred forty young women.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the department of Physics. It contains an amphitheater lecture-room, seating one hundred students, physical laboratories, and a basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, erected in 1896, adjoins the athletic field. It is in the early Italian style of round arched architecture, and is constructed of native stone and brick. The building is T-shaped in plan, the front portion being two stories high, exclusive of the tower. The first floor contains the director's room, locker rooms, and baths. On the second floor there are an assembly room and a committee room, both for general use. The gymnasium floor, which occupies the rear extension, has a clear space of forty-five by eighty feet unobstructed by pillars, the roof being supported by steel trusses. The building is equipped with the appointments of a first-class modern gymnasium.

The gymnasium is now being greatly enlarged at an expense of over $75,000. The outstanding features

of the new building will be: first, the floor, 60 feet by 90 feet in the clear, with wide balcony and running track; second, the swimming pool, 22 feet by 60 feet, and of the best modern type, with its own filter and heater; third, the team rooms. These are in an annex to the south of the rear of the main building, and are entered directly from the street. There is to be one entrance to the athletic field. It is expected that the whole building will be finished and equipped before the opening of next term.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D. C. Newton, once a student in the college. It is a rock-faced stone building of fine architectural appearance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburgh, and

was built by the late Julius Neef, of Philadelphia. It has three manuals and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Library Building, the gift of an anonymous donor, was completed in 1902. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and the department seminar rooms. The interior appointments of the library are entirely in accord with the artistic character of the building.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., provision has been made for a college commons for young men. The building is constructed of brick, with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guests' suite. The building not only provides first-class boarding accommodations, and at reasonable rates, but also constitutes a rallying center for the young men of the college. Apart from the dining room and the provisions for a dormitory, there are rooms for the Young Men's Christian Association, which are admirably adapted to their purpose. In ad-

dition to the spacious room to be used as assembly, reading, and social room, there are an office for the secretary, a committee room, and a cloak room. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

Alden Hall. Since the burning of this building in 1915 it has been rebuilt and greatly enlarged into a modern two story structure for the department of Biology and Geology. Constructed of gray vitrified brick and terra cotta and roofed with red Spanish tile, it forms an imposing building sixty feet wide by one hundred twenty feet long, with the main entrance on George Street. The spacious halls lined with cases for the display of biological specimens, the rough sand finish of the walls, and the stained-oak wood-work and furnishings produce a most pleasing interior.

The building is divided on the first floor into a large lecture room in the east end, a library, professor's office, two private laboratories, and four advanced laboratories; on the second floor into four large laboratories, two store rooms, an office, and a vivarium. The basement contains six rooms which are used by the department for aquaria, work shop, store rooms, etc. The building is exceptionally well-lighted and is well-equipped with tables, lockers, apparatus, etc. Electric lights, water, and gas are supplied to all the rooms.

Carnegie Hall of Chemistry. This building is the latest addition to the group of college buildings and is devoted entirely to the use of the department of Chemistry. The erection of the building was made possible by a gift of $40,000 by Mr. Andrew Carnegie. This contribution was made with the understanding, however, that the trustees of the college add $10,000 to this

sum for the building and, furthermore, that an additional $20,000 be raised for the purpose of providing a definite income for the maintenance of the building. The trustees not only met the terms of the gift but immediately appropriated a generous sum to be used for the purchase of adequate equipment of the laboratories.

With the completion of this building late in the year 1915, the college came into possession of a $70,000 plant for chemistry, not including the equipment, which will amount to approximately $20,000.

The building is constructed of buff tapestry brick with artificial stone trimmings, in the Italian villa style. The roof is of red Spanish tile. The interior structure is entirely of pressed steel. Owing to the fact that it was deemed advisable for hygienic purposes to substitute heavy four-inch wooden floors for cement, it is necessary to describe the building as of "slow-burning construction."

There are twenty-four rooms in the building. All these rooms have been equipped as offices for members of the instructing staff, or as laboratories for the general courses in chemistry and for research work. The building is supplied with electricity, both A. C. and D. C., high pressure steam for operating steam-baths, and with that which appears to be a satisfactory system for ventilating hoods and laboratories.

LABORATORIES AND MUSEUM

The Physical Laboratory. The department of Physics occupies Wilcox Hall of Science. It comprises a large, well-lighted lecture-room; a general laboratory; special laboratories for heat, light, and elec-

tricity; two dark rooms; the professor's office; and department library and store room. The lecture-room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratories. The department of Chemistry occupies the building known as Carnegie Hall of Chemistry. It consists of twenty-four rooms. On the first floor are located the offices of the instructing staff; reading room containing the department library; laboratories for electro-chemistry, quantitative analysis, metallurgical chemistry, physical chemistry, water analysis, gas and fuel analysis; and the hygienic laboratory. The balance room, which is provided with suitable piers, is also located on this floor. On the top floor are found separate laboratories for general chemistry, qualitative analysis, spectrum analysis, and organic chemistry; stock room, preparation room, combustion room, and the large lecture room. In the basement, which has been finished as the two upper floors with the exception of the cement floor, are located the laboratory for agricultural chemistry, small lecture room, stock rooms, and work-shops. The desks in all the laboratories are provided with outlets for compressed air, electricity, A. C. and D. C., as well as gas, water and vacuum pumps. The steam baths, which are supplied with high pressure steam, and the hydrogen sulphide outlets are located in glazed hoods, which are ventilated by forced draughts.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope, the objective

of which was a gift of Mr. J. C. McDowell, of Pittsburgh, and was made by Brashear, of Allegheny, Pa. The graduated silver circles for this telescope were given by Mrs. Elizabeth Whiting, of Meadville. A seven and one-half inch instrument, made by Alvin Clark and Son, is also included in the equipment. Other equipment includes a transit, a chronometer, a sextant, and a sidereal clock. The clock is the gift of the children of Milton B. Goff, LL. D., in memory of their father, an alumnus and former professor of mathematics in the college. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by George N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute field work in astronomy which is of value to engineers. A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock complete the new equipment, which will enable the department to offer to the student work that will be comparable with other observatories having a glass of like magnitude.

Surveying Apparatus. In Mathematics and Surveying all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in these subjects.

The Biological Laboratories, formerly located in restricted quarters on the third floor of Ruter Hall, now occupy, together with Geology, the entire building of Alden Hall, which has been rebuilt and greatly enlarged. This change has greatly increased the number of laboratories and has materially added to the efficiency of the department.

The laboratory for general biology is on the second floor; it is well lighted by north windows and is well equipped with modern laboratory tables, individual lockers, compound microscopes, and other apparatus necessary to accommodate the large number of students who elect this work. Adjoining this general laboratory is a laboratory for advanced zoology, in which hundreds of specimens illustrating the various orders of animals are displayed. On the south side on this floor is the vivarium, in which are still-water aquaria and insect cages; in the northwest corner is a large laboratory for advanced botany and for economic biology; this laboratory contains the herbaria of the local flora, including fungi, mosses, ferns, and seed plants; also hundreds of microscopic slides for use in these courses.

On the first floor is the large lecture hall supplied with student chairs, a balopticon with several hundred slides, and numerous wall charts; adjoining this room are the professor's private laboratory and a preparator's room in which demonstration material is prepared and stored. The bacteriological laboratory on this floor is equipped with lockers, two steam-pressure autoclaves, a multi-compartment, electrically heated incubator, hot-air sterilizers, microscopes, etc. Adjoining this room is the laboratory for histology and embryology supplied with microtomes, multi-compart-

ment paraffin oven, incubators, compound microscopes with oil-immersion lenses, and other necessary apparatus. The laboratory for plant physiology is well equipped with apparatus for studying soils, for seed testing, etc. Opening from this room are a conservatory for growing plants and also a dark room for photographic and experimental purposes. A library with the departmental books and magazines, an advanced bacteriological laboratory, professor's office, and a store room complete the rooms of the first floor.

In the halls are displayed numerous cases of birds, insects, skeletons, dissected and injected specimens, models, and illustrative and museum material of various kinds. The laboratories throughout are equipped with microscopes and the necessary apparatus to carry on the work of the various courses offered by the department. The tables are supplied with electric desk lamps for use on cloudy days.

In the basement is a room with running-water aquaria for fish and amphibians, and several cages for mice used for demonstration work in heredity; a work shop and store rooms are also in the basement. In the rear of the building is a plot of ground which is to be developed into a botanical garden.

The Geological Laboratory is on the second floor of Alden Hall. It contains laboratory tables equipped for blowpipe work and provided with lock drawers for each student. The room is large and well lighted, and is supplied with electricity, gas, running water, and cases for maps, minerals, rocks, and reagents. Other equipment for geological and mineralogical work consists of several hundred topographic maps and geologic folios, several thousand minerals and rocks for

both demonstration and working collections, crystal models, polarizing microscope, rock slides, a lantern with numerous slides, and a collection of fossils arranged in order of the geologic periods. This collection has been augmented materially by the gift of fossils from Montana by Mr. Walter M. Small and by the gift and exchange of fossils by others.

A large room in the basement is used for the preparation and storage of minerals, rocks, and fossils.

The geological library consisting of several hundred volumes of government, state, and other publications is in the department library on the first floor of Alden Hall.

The Psychological Laboratory occupies four rooms on the third floor of Ruter Hall, and several additional rooms are at the disposal of students for experimental work. It is equipped with tables and the apparatus required for elementary experiments. New apparatus will be added as occasion arises.

The Natural History Collections are placed in the museum on the first floor of Ruter Hall and in Alden Hall. The geological and mineralogical collections are especially noteworthy and contain many valuable specimens, including several type forms. The more than eight thousand mineral specimens form an excellent collection and serve as a splendid basis for the course in mineralogy. The geological collections include the Smithsonian set of rocks and rock-forming minerals, besides numerous other specimens; while the paleontological collection includes the Ward casts and several original fossil forms. A collection of fossils, both local and from the glacial drift, has been presented to the college by Mr. William Millward.

The biological collections are also important. The herbarium has been greatly increased so that it includes most of the local flora, which is rich and varied and furnishes an abundance of material for the courses in Botany. The zoological collection consists of several thousand specimens. It includes an excellent collection of shells, over two hundred mounted birds, several cases of economic insects, mounted skeletons, and numerous jars of prepared and injected specimens illustrating the various orders of animals.

The museum is open to the public every Saturday from ten-thirty until noon while the college is in session. At other times visitors are admitted on application to the curator.

THE LIBRARY

The Library contains about 47,500 printed productions of which 35,500 are bound volumes. The remainder is made up of unbound periodicals and classified pamphlets. The additions by gift and purchase during 1918-19 were more than 1,000 volumes. A large number of reference books of a general and technical nature have been recently added to the good collection in the reference room, where 2,000 volumes of books "reserved" for use in the various departments are shelved with the dictionaries, encyclopedias, and general reference works. A dictionary card catalogue and periodical and government document indexes make the general resources and the latest periodical information easily available. Especial attention has been given to completing the bound sets of the most valuable periodicals. The departments of Astronomy, Biology, Chemistry, Geology, and Physics

have their several department libraries in the buildings where the work is done, and additions are made to these collections each year. The Library possesses many rare old books from the Winthrop, Thomas, and Bentley foundations and a number of valuable old Bibles.

The following moneys have been given to create funds for the support of the Library:

Andrew Carnegie Fund.....$25,000
The income of this fund is to be used for general maintenance.

Lucy Prindle Foote Fund.....$ 5,000
A gift of Mrs. Lucy P. Foote, of Batavia, Ill., the income to be used for the purchase of books.

William Davis Memorial Fund.....$ 5,000
A gift of Mr. Henry L. Davis, of Philadelphia, Pa., in memory of his father, Mr. William Davis, the income to be used for the purchase of books.

Rev. Lynn Olin Mead Fund.....$ 500
A gift of Mrs. Martha S. Mead in memory of her late husband, the Rev. Lynn Olin Mead, the income to be used for the purchase of books.

Hattie Mae Thickstun Fund.....$ 1,000
A gift of Mrs. E. Lina Thickstun in memory of her daughter, Hattie Mae Thickstun, the income to be used for the purchase of books.

The Library is housed in a modern building with

large reading and study rooms, fitted with electric lights and steam heat. The administration aims to make the Library not only an auxiliary to the class instruction but also the center of the intellectual life of the college. The classical and literary clubs have headquarters in the building, and rooms are set aside for advanced classes studying along special lines; the rules are such as will allow the widest use of the books with only such necessary restrictions as will secure the greatest good to the greatest number. A periodical room has been fitted up, rubber carpet laid in the main rooms and additional shelving provided in the seminar rooms. The reading room regularly receives over one hundred periodicals, including technical department journals, city dailies, and the best weeklies, both religious and secular. In addition to a very comprehensive list of the best home and foreign periodicals, the Campus and the Literary Monthly maintain an exchange table of college publications.

The Library is a government depository and also receives the state publications. Each department has an annual appropriation for the purchase of the latest technical and reference works. The access to such a wide range of books and periodicals, the training in the use of catalogues, bibliographies, reference works, and the files of technical and general periodical literature available are of great advantage to the student. A book service is maintained with the Carnegie Library of Pittsburgh by which almost any book not available here may be secured quickly and at slight expense to the student. Exchange relations are maintained with several other libraries. The Meadville Theological School extends library privileges to

this college and the students have access to the Meadville Public Library.

The Library is open during the college year as follows:

Monday, 10:30-12:30; the remainder of the week it opens at 8:30. Afternoons, 1:30-5:30. Evenings, Monday to Friday, 7:00-9:00.

GENERAL PURPOSE

This institution is a college, not a university. It does not undertake to fit the student to enter a profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curricula are based. Under the various groups about three-fourths of the subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered, enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for a profession.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. A college training does not teach a man how to do business successfully, but it does prepare him to do business rapidly, and to attain large success, if he has the requisite talent.

REQUIREMENTS FOR ADMISSION

The requirements for admission are stated in terms of units. *A unit is defined as a course of study that has been pursued for a school year of at least thirty-six weeks, with four or five periods per week of not less than forty minutes each. However, not less than one hundred twenty periods of sixty minutes each or their equivalent shall be counted a unit. But it is understood that in the major subjects for entrance five periods a week will be required.*

No science subject may be credited for entrance unless accompanied by satisfactory evidence of laboratory or field work. Exceptions may be made in the case of physiology.

Subjects accepted for entrance:

	Minimum.	Maximum.
English	3	4
Mathematics	2½	4
Foreign Language	4	7
Latin		
Greek		
French		
German		

Not less than two units in any language will be counted, unless continued further in college.

History	1	4
Medieval and Modern	..	1
Ancient	..	1

English	½	1
United States	½	1
Civics	½	1
Drawing		
Free Hand	..	½
Mechanical	..	½
Science	1	4
Biology	½	1½
Chemistry	..	1
Physics	..	1
Physiography	½	1
Physiology	½	..
Geology	..	½
General Science	½	1

Not more than one unit of Biology may consist of General Zoology or Botany.

From the preceding list of units 15 must be offered for entrance to the freshman class. Of these, 11½ units are absolutely required and 3½ may be elected from any of the units in the foregoing list.

The 11½ required units are as follows:

English	3
*Mathematics	2½
Science	1
History	1
Foreign Language	4

For admission to A. B. Groups I and II, these 4 units will be in Latin; to Groups III, IV, and V, two

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* Students may be admitted with 2 units of Mathematics, provided they offer 15 units all told; but they will be required to complete in college a half year of Mathematics in addition to the regular Science requirement.

units must be in Latin; to B. S. Groups I-IV, there is no restriction concerning Latin.

The various groups are described on pp. 48-53.

For conditional admission in the aforementioned Latin prerequisite see page 84.

DESCRIPTION OF UNIT REQUIREMENTS

ENGLISH.—The following is a definition of units one, two, three, and four, respectively, that may be offered as entrance credits in English:

(Unit one) Composition and Rhetoric.

(Units two and three) Selections from the list of required readings below.

(Unit four) A history of English or American literature, with additional readings from the English classics.

The study of English in school has two main objects, which should be considered of equal importance: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation, and the development of the habit of reading good literature with enjoyment.

The second object is sought by means of the reading and study of a number of books from which may be framed a progressive course in literature. The student should be trained in reading aloud and be encouraged to commit to memory notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

A few of these books should be read with special care, greater stress being laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions.

Examination—Candidates will have the option of taking either of two examinations; (1) a "Comprehensive" examination; (2) a "Restricted" examination, based in part on a prescribed list of books.

Each examination will be divided into two parts, one of which will be on grammar and composition, and the other on literature.

Restricted Examination—This examination will include:

A. Questions designed to test such knowledge and appreciation of literature as may be gained by an intelligent reading of the books given in list A.

B. A test on the books in list B. This will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of styles. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

When parts A and B of the restricted examination are taken at different times, each will include a test in grammar and composition.

Restricted List—

A. Books for Reading. Two books are to be selected from each of the five groups, except that for any book in Group I a book from any other may be substituted.

GROUP I. Classics in Translation. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the Aeneid. The Odyssey and the Aeneid should be read in English translations of recognized literary excellence.

GROUP II. Drama. Shakespeare's The Merchant of Venice, As You Like It, Julius Cæsar.

GROUP III. Prose Fiction. Dickens' A Tale of Two Cities; George Eliot's Silas Marner; Scott's Quentin Durward; Hawthorne's The House of Seven Gables.

GROUP IV. Essays, Biography, etc. Addison and Steele's The Sir Roger de Coverley Papers; Irving's The Sketch Book (about 175 pages); Macaulay's Lord Clive; Parkman's The Oregon Trail.

GROUP V. Poetry. Tennyson's The Coming of Arthur, Gareth and Lynette, Lancelot and Elaine, The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa, Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, and Coleridge's The Ancient Mariner; Scott's The Lady of the Lake.

B. Books for Study. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I. Drama. Shakespeare's Macbeth, Hamlet.

GROUP II. Poetry. Milton's L'Allegro, Il Penseroso, and Comus; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley.

GROUP III. Oratory. Burke's Speech on Conciliation with America; Washington's Farewell Address, Webster's First Bunker Hill Oration, and Lincoln's Gettysburg Address.

GROUP IV. Essays. Carlyle's Essay on Burns, with a selection from Burns' Poems; Macaulay's Life of Johnson.

Comprehensive Examination—The purpose of this examination will be to enable the candidate to show that he has read, understood, and appreciated a sufficient amount of English literature. The paper will include some questions that cannot be answered except by candidates who are able to apply what they have learned to passages of literature which they have not read before. Suggestions for books to be read in preparation for this examination will be found in the list of recommended reading appended.

Comprehensive List—

GROUP I. Classics in Translation. The Old Testament,

comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; the Aeneid. The Odyssey, Iliad and Aeneid should be read in English translations of recognized literary excellence.

GROUP II. Drama. Everyman; Shakespeare's Midsummer Night's Dream, Merchant of Venice, As You Like It, Twelfth Night, The Tempest, Romeo and Juliet, King John, Richard II, Richard III, Henry V, Coriolanus, Julius Cæsar, Macbeth, Hamlet; Goldsmith's She Stoops to Conquer; Sheridan's The Rivals.

GROUP III. Prose Fiction. Malory's Morte d'Arthur (about 100 pages); Bunyan's Pilgrim's Progress, Part I; Swift's Gulliver's Travels (voyages to Lilliput and to Brobdingnag); Defoe's Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; Frances Burney's Evelina; Scott's novels, any one; Jane Austen's novels, any one; Maria Edgeworth's Castle Rackrent, or The Absentee; Dickens' novels, any one; Thackeray's novels, any one; George Eliot's novels, any one; Mrs. Gaskell's Cranford; Kingsley's Westward Ho! or Hereward the Wake; Reade's The Cloister and the Hearth, or Griffith Gaunt; Blackmore's Lorna Doone; Lytton's The Last Days of Pompeii; Hughes' Tom Brown's Schooldays; Stevenson's Treasure Island, or Kidnapped, or Master of Ballantrae, or Dr. Jekyll and Mr. Hyde; Cooper's novels, any one; Poe, selected tales; Hawthorne's The House of the Seven Gables, or Twice Told Tales, or Mosses from an Old Manse; short stories by various standard writers, as Bret Harte, Aldrich, Page, Hale, and Barrie; Kipling's Kim, or Captains Courageous, or Jungle Books; Howells' The Rise of Silas Lapham, or A Boy's Town; Wister's The Virginian; Cable's Old Creole Days.

GROUP IV. Essays, Biography, etc. Addison and Steele's The Sir Roger de Coverley Papers, or selections from the Tatler and Spectator (about 200 pages); Boswell, selections from the Life of Johnson (about 200 pages); Franklin's Autobiography;

Irving's Life of Goldsmith; Southey's Life of Nelson; Lamb, selections from the Essays of Elia (about 100 pages); Lockhart, selections from the Life of Scott (about 200 pages); Thackeray's Lectures on Swift, Addison, and Steele in the English Humorists; Macaulay, any one of the following essays: Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederick the Great, Madame d'Arblay, Life of Johnson, Two Speeches on Copyright, History of England, Chapter III; Trevelyan, selections from the Life of Macaulay (about 200 pages); Ruskin's Sesame and Lilies, or selections (about 150 pages); Dana's Two Years Before the Mast; Lincoln, selections, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman's The Oregon Trail; Thoreau's Walden; Lowell's Selected Essays (about 150 pages); Holmes' The Autocrat of the Breakfast Table; Stevenson's An Inland Voyage and Travels with a Donkey; Huxley's Autobiography and selections from Lay Sermons, including the addresses on improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; Washington's Farewell Address; Burke's Speech on Conciliation with America; Webster's First Bunker Hill Oration; Emerson's Manners, Self-Reliance; Burrough's Selected Essays; Warner's In the Wilderness; Curtis's Prue and I, Public Duty of Educated Men; Hudson's Idle Days in Patagonia; Clemens' Life on the Mississippi; Riis's The Making of an American; Bryce's The Hindrances to Good Citizenship; a collection of essays by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers; a collection of letters by various standard writers.

GROUP V. Poetry. Palgrave's Golden Treasury (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley; Milton' L'Allegro, Il Penseroso, Comus, Lycidas; Goldsmith's The Traveler, and the Deserted Village; Pope's The Rape of the Lock; a collection of English and Scottish ballads, as, for example, some Robin Hood Ballads, The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Gra-

hame, Sir Patrick Spens, and a selection from later ballads; Coleridge's The Ancient Mariner, Christabel, and Kubla Khan; Byron's Childe Harold, Canto III or IV, and The Prisoner of Chillon; Scott's The Lady of the Lake, or Marmion; Macaulay's The Lays of Ancient Rome, the Battle of Naseby, The Armada, Ivry; Tennyson's The Princess, or Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa, Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, The Forsaken Merman, and Balder Dead; selection from American poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

MATHEMATICS.—Elementary Algebra. (One unit or one and one-half units.) The work in this subject should include the following: fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

A maximum of one and one-half units may be given when the time spent in preparing to meet this requirement be at least a year and a half. It is suggested that the work of the last half-year should be done late in the preparatory school course to insure a distinct and ready articulation with the required work of the freshman year in college. It is desirable that the student should come to his college work with well formed habits of neatness and accuracy, and that he have a ready knowledge of so much mathematics as he may have studied.

Plane Geometry. (One unit.) The general properties of rectilinear figures, similar polygons, and areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

Solid Geometry. (One-half unit.) The relation of planes and lines in space; the properties and measurement of prisms,

pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

Advanced Algebra. (One-half unit.) A somewhat more extended treatment in review of the important topics of elementary algebra; such as fractional and negative exponents, radicals, factoring, the theory of quadratic equations (including maxima and minima, simultaneous quadratic equations, ratio, proportion, the progressions, and the binomial theorem for positive integral exponents). In addition to these, the following topics should be included: permutations and combinations, undetermined coefficients, partial fractions, logarithms, theory of equations, including Horner's method, and the solution of numerical equations of higher degree.

Plane Trigonometry. (One-half unit.) The definitions and relations of the six trigonometric functions as ratios, proofs of formulas, especially those for the sine, cosine and tangent of the sum or difference of two angles, the relation between functions of an angle and those of double angles and half angles, inverse functions, and the solution of right and oblique triangles with applications.

LATIN.—The following requirements, as proposed by the Commission on College Entrance Requirements in Latin, have been adopted by the college:

I. AMOUNT AND RANGE OF THE READING REQUIRED.

1. The Latin reading required of candidates for admission to college, without regard to the prescription of particular authors and works, shall not be less in amount than Cæsar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, Aeneid, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Cæsar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and De Senectute) and Sallust (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Aeneid) and Ovid (Metamorphoses, Fasti, and Tristia).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS.

1. **Translation at Sight.** Candidates will be examined in

translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. **Prescribed Readings.** Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias; and Vergil, Aeneid, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. **Grammar and Composition.** The examination in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and ordinary syntax and vocabulary of the prose authors read in the school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

The credits given are as follows: elementary Latin book, such as Collar and Daniell or Bennett, including the reading of at least fifteen pages of easy connected prose, such as Viri Romæ, one unit; Cæsar with composition, one unit; Cicero with composition, one unit; Vergil, one unit.

GREEK.—(One unit.) First Greek book and at least six chapters of Book I of Xenophon's Anabasis.

(One unit.) Xenophon's Anabasis through Book IV. Xenophon's Anabasis, Books V, VI, and VII, or Xenophon's Hellenika, Books I and II, or twelve hundred lines of Homer. Prose composition based on the texts read.

(One unit.) Homer's Iliad or Odyssey, about three thousand lines. Thorough knowledge of poetic forms and prosody. About thirty pages of Attic prose with composition based thereon.

Throughout the work in Greek, emphasis should be laid on accurate knowledge of forms and the ordinary rules of syntax, on the ability to read Greek aloud correctly and expressively, and on the ability to write rapidly and correctly in Greek simple English sentences based on the texts read.

Students expecting to enter Greek I in college should offer at least two units of entrance Greek. Students without Greek for entrance may begin the subject in Greek A and in one year be prepared to enter Greek I.

GERMAN.—(One unit.) The first year's work should comprise: careful drill in pronunciation, dictation, memorizing of easy colloquial sentences, drill in the rudiments of grammar, i. e., the inflection of nouns, adjectives, pronouns, weak verbs, and the more usual strong verbs; the use of prepositions; the simplest rules of syntax and word order; simple exercises in conversation; and the reading of from seventy to one hundred pages of a graduated text from a reader or from editions of easy texts.

(One unit.) The second year's work should comprise: the reading of one hundred fifty to two hundred pages of literature in the form of easy stories and plays; a further study of syntax; conversation based on the text read; practice in the translation into German of easy variations upon the matter read, and also in off-hand reproduction, sometimes orally and sometimes in writing, of the substance of selected passages.

(One unit.) The work of the third year includes, in addition to the courses above, the reading of about four hundred pages of moderately difficult prose or poetry, with constant practice in giving, sometimes orally, sometimes in writing, abstracts, paraphrases, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of the article, and the cases, the uses of the subjunctive and the infinitive, complex sentence structure, and the uses of modal auxiliaries and participial constructions.

(One unit.) The fourth year of the study should be devoted to such works as Goethe's Iphigenie, Tasso, Hermann und Dorothea, Schiller's Wallenstein, standard prose of the grade represented by Freytag or Keller, some consideration of

the chief lyric poets, prose composition, and some practice in theme writing.

FRENCH.—(One unit.) First year French should comprise the following: (1) careful drill in pronunciation, which should be re-enforced by dictation and conversation in the class room; (2) study of grammar, including the more usual irregular verbs, such as the material found in Part I of Fraser and Squair's French Grammar; (3) regular practice in putting simple idiomatic sentences into French; (4) reading of about two hundred duodecimo pages of easy standard French, such as is to be found in the more popular French Readers, Malot's Sans Famille, Bruno's Tour de la France, the stories of Erckmann-Chatrian, etc.

(One unit.) Second year French should include: (1) continued work in dictation; (2) memorizing of short poems; (3) further practice of turning English into idiomatic French, (4) more detailed study of grammar, such as is contained in Fraser and Squair, Part II; (5) reading of some three hundred pages of standard French of gradually increasing difficulty, such as the stories and plays of About, Daudet, Labiche, Mérimée, Sand, Scribe, etc.

(One unit.) Third year French should comprise the reading of some five hundred pages of more difficult French, including some masterpieces of French drama. Moreover, the student should be able to reproduce and paraphrase into idiomatic French parts of the works read. Texts should be selected from the works of Balzac, Beaumarchais, Corneille, Hugo, Marivaux, Molière, Musset, Racine, Vigny, Voltaire, etc.

ANCIENT HISTORY.—(One unit.) To the fall of the Roman Empire. Texts—Botsford, West, Myers.

MEDIEVAL AND MODERN.—(One unit.) Texts—Myers, Robinson.

ENGLISH HISTORY.—(One-half or one unit.) Texts—Cheyney, Larned.

AMERICAN HISTORY.—(One-half or one unit.) Texts—Channing, Fiske, McMaster.

CIVICS.—(One-half or one unit.) Texts—Fiske, Hart.

FREE HAND DRAWING.—(One-half unit.) The candidate must possess the ability to sketch, both in outline and with shading, simple objects, such as a house, a small piece of machinery, a simple landscape, a group of geometrical figures, or an architectural ornament.

Certificates covering the above work, together with at least twenty specimen drawings, will be accepted.

MECHANICAL DRAWING.—(One-half unit.) The candidate must be able to make projections in plan and elevation of geometrical figures, and to prepare working drawings of simple architectural and mechanical subjects.

Certificates covering this work, together with at least twenty plates, illustrating the elements of descriptive geometry or of simple machine parts, will be accepted.

BIOLOGY.—Courses in zoology, botany, physiology and hygiene will also be accepted under this head provided they meet the requirements here given. Satisfactory outlines of courses are given in the syllabus published by the New York State Educational Department.

a. (One unit.) A course in general biology extending throughout a year which shows the fundamental relationship between the animal and plant kingdoms and shows man's place in nature. A part of this course may deal with human physiology. The course must be accompanied with laboratory work and the student, if required to do so, must be prepared to submit a laboratory note-book properly certified.

b. (One-half to one unit.) Courses in general zoology or general botany of at least one-half year in length. It is recommended that these be courses which deal with habits and ecological relationships as well as structure. Forms of animals or plants of local or of economic importance should be used as type forms as far as possible. Courses in botany dealing solely with the flowering plants or courses in zoology dealing solely with birds or insects will not be accepted. Laboratory work will be required in all cases and the student must be prepared to submit a properly certified note-book.

c. (One-half unit.) Physiology and Hygiene. This must be a one-half year course, and it is recommended that laboratory work be done with the course.

GEOLOGY.—(One-half unit.) The materials of the earth, the work of the atmosphere, ground-water, running water, snow and ice, the oceans and lakes, vulcanism and diastrophism; rock structures; the history of the geologic periods from the Archæozoic to the present. Laboratory and field work are required, for which a note-book is to be submitted.

PHYSIOGRAPHY.—(One-half or one unit.) The origin and significance of the great relief features of the earth, and the topographic forms of the land; the earth as a planet; the atmosphere; the climate; weather predictions. Appropriate field and laboratory work must accompany the study of the text. Suitable text books are Salisbury's Briefer Course in Physiography, or Tarr's Physical Geography.

CHEMISTRY.—(One unit.) The candidate's preparation in chemistry should include: (a) The study of at least one standard text-book on general chemistry, to the end that the pupil may obtain a comprehensive view of the more important facts of elementary chemistry. (b) Individual laboratory note-books, certified by the candidate's instructor, must be presented.

PHYSICS.—(One unit.) The amount and extent of the class work required for entrance in physics may be indicated by such texts as Millikan and Gale's First Course, Hoadley's Elements, or Carhart & Chute's High School Physics. In laboratory the work should include at least thirty quantitative experiments supplementing the class work, performed by the student, and recorded in a carefully prepared note-book.

SPECIAL STUDENTS

Persons desiring to pursue studies in the college are, as a rule, required to be prepared to enter the freshman class as candidates for one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the faculty that he is prepared to do, with profit,

the work which he selects. Each case will be decided on its own merits.

ENTRANCE EXAMINATIONS

Examinations for admission are held on Monday and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the first term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in all subjects.

ADMISSION BY CERTIFICATE

In place of examinations in studies required for admission to college, certificates will be accepted from approved first class high schools having a regular four years' course, in case of students regularly graduating in such a course. Certificates will also be accepted in case of graduates of a three years' high school course, provided they pass entrance examinations in not less than three units additional to their certificate.

Certificates will not be accepted in the cases of students who are not graduates of the school from which the certificates are presented. *Students entering by certificate are considered as on trial until the completion of the mid-year examination, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.*

In all cases an examination in English is required, adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to have their schools placed on the approved list are invited to address the Registrar of the college.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should bring with him all laboratory note-books, exercise books, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismissal will be required from those who have been matriculated at other institutions.

Requirements for Graduation to the Degree of Bachelor of Arts

FRESHMAN YEAR

	First Term.	Second Term.
English I	3	3
English Bible I	1	1
*Mathematics or Science	4	4

One course from each of two of the following departments: Latin, Greek, French, History.

The above foreign language courses will count as part of the student's Group Electives as detailed on pp. 52, 53.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For Group I he should choose Latin and Greek.

For Group II he should choose Latin or Greek, and French.

For Group III he should choose French and one other.

For Group IV he may choose any two of the subjects.

For Group V he should choose a language course and one in the history department.

Not less than fifteen and not more than sixteen hours are to be taken weekly.

*Candidates for the degree of Bachelor of Arts are required to elect fourteen term hours from the following courses: Astronomy I, Biology I, Chemistry I, Geology I, Mathematics I, Physics I, so that two departments are represented.

SOPHOMORE YEAR

	First Term.	Second Term.
Mathematics or Science	4 or 3	4 or 3
History or Political Science	3	3

(unless taken in the freshman year).

Group Electives [see below] to make not less than fifteen and not more than seventeen hours weekly.

JUNIOR YEAR

	First Term.	Second Term.
Philosophy II, V	3	3

This subject may be taken in the sophomore year if the student is to do his major work in philosophy.

Group Electives and Free Electives, to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR

A thesis. See page 105.

Group Electives and Free Electives chosen from the list on pages 106-110 to make a total for the course of not less than one hundred twenty term hours.

GROUP ELECTIVES

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of A. B. Groups I, II, III, IV, V, in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 117.

A. B. Group I

1. In one department, Greek or Latin.....20 hrs.
2. In a second department, Latin or Greek.....14 hrs.
3. In a third department, English, History, Philosophy, or French .....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, French, or Spanish..... 6 hrs.

A. B. Group II

1. In one department, Latin or Greek.....20 hrs.
2. In a second department, French.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, Greek, or French.....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, French, or Spanish..... 6 hrs.

A. B. Group III

1. In one department, French.....20 hrs.
2. In a second department, English, History, Philosophy, Latin, or Greek.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, or Greek.....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, or Spanish..... 6 hrs.

Students who present for admission less than two units in a modern language must, if this Group is chosen, take not less than eight hours additional to the above requirements, in the language chosen for the major subject.

A. B. Group IV

1. In one department, English or Philosophy.....20 hrs.
2. In a second department, English, History, or Philosophy .....14 hrs.
3. In a third department, Latin, Greek, or French....14 hrs.
4. In a fourth department, Latin, Greek, French, or Spanish ..... 6 hrs.

A. B. Group V

1. In one department, History or Economics.....20 hrs.
2. In a second department, Economics, English, History, or Philosophy.....14 hrs.
3. In a third department, Latin, Greek, or French....14 hrs.
4. In a fourth department, Latin, Greek, French, or Spanish ..... 6 hrs.

Requirements for Graduation to the Degree of Bachelor of Science

FRESHMAN YEAR

	First Term.	Second Term.
English I	3	3
English Bible I	1	1
Foreign Language: French, Latin, or Greek	4	4
Mathematics I	4	4
Science—Biology, Chemistry, Physics, or Surveying	4	4

This Science course will count as part of the student's Group Electives as detailed on p. 56.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For B. S. Group I, he should choose Biology.

For B. S. Group II, he should choose Chemistry.

For B. S. Group III, he should choose Physics.

For B. S. Group IV, he should choose Mathematics or Surveying.

SOPHOMORE YEAR

	First Term.	Second Term.
*History or Political Science	3	3
Foreign Language, continuing the language taken in the freshman year	4 or 3	4 or 3

Group Electives [see page 56] to make not less than fifteen and not more than seventeen hours weekly.

*This work may be postponed to the junior year in case it is necessary for the student to continue a subject begun in the freshman year.

JUNIOR YEAR

	First Term.	Second Term.
Philosophy II, V	3	3
Second Foreign Language, including Spanish	4 or 3	4 or 3

Group Electives and Free Electives to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR

A thesis. See page 105.

Group Electives and Free Electives chosen from the list on pages 106-110 to make a total for the course of not less than one hundred twenty term hours.

GROUP ELECTIVES

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of B. S. Groups I, II, III, or IV, in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 117.

B. S. Group I

1. Biology ..... 20 hrs.
2. Chemistry or Physics ..... 14 hrs.
3. Physics or Chemistry or Mathematics ..... 8 hrs.

B. S. Group II

1. Chemistry ..... 20 hrs.
2. Biology or Mathematics or Physics or Surveying .. 14 hrs.
3. Biology or Mathematics or Physics or Surveying .. 8 hrs.

B. S. Group III

1. Physics ..... 20 hrs.
2. Chemistry or Mathematics or Surveying ..... 14 hrs.
3. Mathematics or Chemistry or Biology ..... 8 hrs.

B. S. Group IV

1. Mathematics or Surveying ..... 20 hrs.
2. Physics or Mathematics or Surveying ..... 14 hrs.
3. Biology or Chemistry or Physics or Mathematics .. 8 hrs.

COURSE OF INSTRUCTION
BY DEPARTMENTS

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as especially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ART

None of the courses in Art are technical. They are directed to the fountain of correct judgment regarding art objects and an acquaintance with the more notable monuments of the art of civilized people as an index to their character and ideals. The instruction is mainly by lecture but much reading is required as well as close study of art objects, original or in reproduction.

COURSE I—History and Appreciation of Art. An outline of the development of architecture, sculpture, and painting. Attention is given to the historical side of the subject but most importance is attached to discovering the fundamental qualities of art as a basis of the accepted canons of good taste and to developing correct and intelligent individual judgment of works of art.

Throughout the year, two hours.

COLLATERAL COURSES—Greek Architecture. See Greek VIII.

Greek Sculpture. See Greek IX.

Roman Topography and Architecture. See Latin V.

ASTRONOMY

The courses in Astronomy aim to give the student a comprehensive view of the science and to acquaint him with the theories of the development of the solar system and the structure of the universe. In all courses the student is required to study the members of the solar system, star clusters, nebulae, and other celestial objects with the aid of the instruments in the Newton Observatory.

COURSE I—General Astronomy. A study of the members of the solar system, the laws that govern their motions, and other phenomena. Also a study of the stars and nebulæ, with a discussion of the laws and theories of their relations. The important applications of astronomy to time determination, navigation, etc., find their places in this course. Finally the theories of cosmogony are outlined and the evidence that the heavenly bodies give in support of these theories is discussed. The student will be required to make systematic observations and to perform appropriate experiments in connection with the course. Open to students who have had a course in High School Physics in addition to Mathematics I, or to those who have completed Physics I.

Throughout the year, three hours.

COURSE II—Field Astronomy. Determination of time, latitude, and longitude, with the transit, sextant, and chronometer. Open to those who have completed Trigonometry and Astronomy I.

Second term, two hours.

Given in 1920-21.

COURSE III—History of Astronomy. A course tracing the progress of the science from early times, including the work of the celebrated pioneers, down to the present day. Open to students who have completed Course I.

Second term, two hours.

Given in 1921-22.

BIOLOGY

The courses in this department are designed to acquaint the student with the great world of life in its different forms, functions, and uses. Considerable attention is given to details in observation and to a comparative study of forms, thereby training the student to observe accurately and to think clearly and logically. The economic aspects of the subject are considered with the view of presenting some of the great problems in the applied biological sciences.

A Biological Club exists for advanced students, in which reviews of current biological literature or of research work of the student are presented.

COURSE I—General Biology. This course aims to give the fundamentals of the science considering life in its broadest aspects; various types are studied with the view of illustrating the various forms and functions of life and of showing the general principles of organic evolution. The first term is zoological in character, the second term botanical. The field work consists in the collection and identification of some group of animals or plants; in the laboratory a series of type forms is studied. Lectures and recitations, three hours a week; laboratory and field work, two hours a week.

Throughout the year, four hours.

COURSE II—Principles of Biology. A course which deals with evolution, natural selection, mutation, genetics, including Mendel's Law, inheritance of acquired characters, eugenics, and the physical basis of life and heredity as found in the cell, together with the general facts and theories of development. Lectures and assigned readings. Open to all college students above freshman rank.

Throughout the year, one hour.

COURSE III—Advanced Botany. The structure and functions of the various organs of the seed plants are considered

the first term, including the study of prepared material and experimental work on living plants in photosynthesis, transpiration, respiration, growth, and reactions to various stimuli. The second term's work is largely systematic and aims to acquaint the student with the local flora, including the algæ, fungi, mosses, ferns, and seed plants. Field work forms an important feature of the course. Lectures and recitations, two hours a week; laboratory and field work, four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE IV—Advanced Zoology. The external and internal morphology of a series of animals illustrating the various classes are studied. The first term is devoted to the invertebrates, the second term to the vertebrates, including the dissection of various forms; the work of the first term is extensive, that of the second term intensive and largely comparative. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE V—Economic Botany. This course is designed to give the student a knowledge of the history, distribution, methods of culture, and the uses of the various economic plants, such as those furnishing foods, fibres, flowers, drugs, timbers, etc. The cause and treatment of the diseases of the economic plants form an important feature of the work. Lectures and recitations, two hours a week; laboratory work, two hours a week. Open to students who have completed Course I, or its equivalent.

First term, three hours.

COURSE VI—Economic Zoology. A course corresponding to Course V, but dealing with economic animals. The major part of the time is spent in the study of insects and birds. Considerable attention is given to the identification and to the life histories of those insects which cause damage to cultivated crops. Lectures and recitations, two hours a week; field

and laboratory work, two hours a week. Open to students who have completed Course I, or its equivalent.

Second term, three hours.

COURSE VII—Bacteriology. The aim of this course is to acquaint the student with the general distribution and activities of the micro-organisms. The laboratory work is designed to give the student training in bacteriological technique by growing some type forms and studying their morphology and physiology. A quantitative and a qualitative analysis for micro-organisms is made of air, soil, and various food products, including water, milk, butter, etc.; the disease-producing micro-organisms as well as those which cause fermentation and decay are studied. Lectures and recitations, one hour a week; laboratory work, four hours a week. Open to students who have completed Course I.

Throughout the year, three hours.

BIOLOGY VIII—Human Anatomy and Physiology. A course which treats of the various structures and functions of the human body, including digestion, assimilation, excretion, irritability, etc. Lectures and recitations, two hours a week; laboratory work, two hours a week. Open to students who have completed Course I.

First term, three hours.

COURSE IX—Cytology and Histology. A course which treats of the structure of the cell and its various modifications into tissues; the laboratory work is designed to give the student training in technique and consists in the fixing, imbedding, sectioning, staining and mounting of various tissues, mostly from animals. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course I, and preferably Course IV.

First term, four hours.

Course X—Vertebrate Embryology. This course includes the study of the development of the chick and of a mammal from the time of fertilization of the egg until fully formed. Preparation of microscopic slides and the study of the vari-

ous stages constitute the laboratory work. This course and Courses IV and IX are recommended for those who anticipate the study of medicine. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course IX.

Second term, four hours.

BIOLOGY XI—Sanitation and Hygiene. This course deals with those things which affect both public and personal health; foods, including their relative values and their sanitary importance, the causes and prevention of disease, and the general care of the body are topics considered. Lectures and assigned readings, one hour a week. Open to all college students.

Throughout the year, one hour.

COURSE XII—Special Biology. This course is designed for students who are desirous of pursuing some line of biological work not included in the above courses. Open to students only by permission of the head of the department.

Hours to be arranged.

CHEMISTRY

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. The non-metals, metalloids and metals, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives special attention, as also do the elementary principles of chemical

dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text-books: Lee's Text-book of Experimental Chemistry and Mellor's Modern Inorganic Chemistry. Lectures and recitations, two or three hours a week. Laboratory work, two to four hours a week.

Throughout the year, four hours.

COURSE II—Analytical Chemistry. Qualitative Analysis. Bases and Acids. The student is required to work through a system of preliminary analytical reactions. The more intimate knowledge of the elements and their compounds thus gained enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc., receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the manual. Text-book: Lee's Qualitative Chemical Analysis. The work is arranged so as to include a brief course in Spectrum Analysis. Laboratory and lectures, six hours a week throughout the year. Open to those who have completed Course I, or its equivalent.

Throughout the year, three hours.

COURSE III—Analytical Chemistry. Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric, physico-chemical, and volumetric processes as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights and all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirement.

Electro-Chemical Analysis. A brief course in electrolytic methods of analysis is included in this year's work.

Laboratory work, eight hours a week. All laboratory work is supplemented by lectures. Open to those who have completed Course II, or its equivalent.

Throughout the year, four hours.

COURSE IV—Gas and Fuel Analysis. This course is offered because of the analyst's frequent need of this kind of training. It deals with the laws of gases, and with the various methods of determining the composition and calorific value of various gaseous, liquid, and solid fuels. Lectures and laboratory work, four hours a week.

Throughout the year, two hours.

COURSE V—Organic Chemistry. The work of this course begins with an historical sketch of the development of organic chemistry, and a consideration of such topics as the nature of carbon, homology, isomerism, stero-isomerism, types of formulæ, nomenclature, and classification of organic compounds. The compounds of the aliphatic and aromatic series are then studied in detail. Those compounds and processes which are of technical or theoretical importance receive special attention. This course is recommended to those students who contemplate the study of medicine or other phases of chemico-biological work, or chemical engineering. Course VI should be taken in conjunction with this course. Open to students who have completed Course II.

Throughout the year, three hours.

COURSE VI—Organic Preparations, Reactions, and Analysis. This is a laboratory course involving methods for the preparation, the purification, and the analysis of a number of typical organic compounds. The physical and reaction properties, and the relationships of these compounds are then studied in detail. In the prosecution of this work the student becomes familiar with the apparatus and operations involved in the work of practical organic chemistry, such as crystallization, determination of melting and boiling points, fractional distillation, steam distillation, extraction, drying, determination of molecular weights; and with the general methods of preparation, such as etherification, oxidation and reduction, saponifi-

cation, nitration, sulphonation, diazotization, etc. The work in organic analysis includes in addition to the usual qualitative tests, quantitative determinations of carbon, hydrogen, nitrogen, and halogens. Laboratory work, six hours a week. Open to those who have completed or are taking Course V.

Throughout the year, three hours.

COURSE VII—Sanitary Analysis and Physiological Chemistry. The purpose of this course is to familiarize the student with the standard methods of making physical, chemical, and bacteriological examinations of air, water, milk, sewage, food, etc. Although attention will be given to the study of the distribution, cultivation, identification of various pathogenic microörganisms, stress will be placed upon the chemical changes effected by these organisms. This course is recommended to those who contemplate pursuing medicine as a profession or sanitary work. Opportunity is provided for practical as well as research work along this line. For example, blood, urine, and sputum are studied, with a view of emphasizing their diagnostic value; methods for testing efficiency of disinfectants are considered; etc.

Throughout the year, three hours.

COURSE VIII—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines. It is designed to familiarize the individual with many of the analytical methods in use in commercial laboratories. Three lines of work are open to the student:

(a) **Metallurgical Analysis,** which includes the analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke, and coal.

(b) **Food Analysis,** which includes the analysis of those substances essentially organic in nature, as foods, and the detection of adulterants.

(c) **Agricultural Chemistry,** which includes analysis of soils, fertilizers, dairy products, etc.

Special courses in **Biological Chemistry** and **Toxicological**

Analysis are offered to students preparing for the profession of chemistry or the study of medicine.

Hours elective.

COURSE IX—Physical Chemistry. This course aims to give the student a general knowledge of the principles of the subject by means of lectures, reading, and laboratory work. This latter work will include the determination of "the heat of neutralization," "heat of solution," "speed of reaction," solubilities, molecular weights, conductivities, refractive indices, and an experimental study of various other physical and chemical constants. Six hours a week.

Throughout the year, three hours.

COURSE X—History of Science and Development of Chemical Theory. The first part of this course is devoted to a general survey of the historical development of science, after which an effort is made to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparation of theses. Open to students who have completed Course I.

Throughout the year, two hours.

COURSE XI—Industrial Chemistry. The work of this course has been outlined to meet the wants of those students who are particularly interested in the application of chemical processes to the commercial arts.

Throughout the year, three hours.

ECONOMICS AND BUSINESS ADMINISTRATION

The courses in this department are open to those who have completed a year's work in history or political science. Particular attention is given to the study of the development of economic life and institutions, American conditions being specifically analyzed. Students are familiarized with the accepted principles of

economics, and they are given a practical acquaintance with the problems of complex economic organization. Encouragement is also offered to individual research, with a view to possible future specialization. The instruction in the several courses is conducted by means of lectures and assigned reading in journals, periodicals, and government documents. Papers on topics assigned for investigation and comparative examination of various authorities are required at different stages of the work. Throughout the work in economics its close relationship to history and political science is impressed on the student, and the work in these subjects is closely coordinated. Course I is required for admission to any of the other courses in this department.

COURSE I—Principles of Economics. A study of the fundamental laws and concepts of Economics, covering the subjects of production, consumption, exchange, and distribution.

First term, three hours.

COURSE II—Modern Economic Problems. A brief introduction is made, in the light of the general principles, to a number of present day economic problems: tariff, taxation, foreign exchange, trusts, social insurance, etc.

Second term, three hours.

COURSE III—Corporation Finance. This course aims to develop the essential features of a sound financial structure. Among the subjects treated are: the evolution of the corporation, nature of corporate charters, methods of promoting and financing, combinations, insolvency, and reorganization.

First term, two hours.

Given in 1920-21.

COURSE IV—Industrial History of the United States. A study of the growth and development of agriculture, mining, manufacture, domestic and foreign commerce. Also a brief

survey of the effects of national legislation upon industry and commerce.

Second term, two hours.

Given in 1920-21.

COURSE V—Money and Banking. A discussion of the theory, principles, and practical aspects of banking and currency. Emphasis is placed upon the relation of money and credit, functions of banks and bank credit, foreign exchange and gold movements, the operation of the Federal Reserve System.

First term, two hours.

Given in 1921-22.

COURSE VI—Transportation. A study of the development of American transportation systems, with special reference to their organization, relation to shippers, consumers, the public, and the problems of government control.

Second term, two hours.

Given in 1921-22.

COURSE VII—Business Organization and Management. An introduction to the general principles of internal organization and management of business enterprises. Such topics as the following are considered: organization of the managerial force, selecting and training employees, methods of remuneration and promotion, purchasing, selling, advertising, welfare work. Special emphasis is placed on the relation of employer and employee.

Throughout the year, two hours.

Given in 1920-21.

COURSE VIII—Sociology. A study of social origins and social evolution, with particular reference to social laws and factors affecting social progress. Certain typical modern social problems, such as poverty and immigration will be considered with special reference to systems of improvement.

Throughout the year, two hours.

Given in 1921-22.

EDUCATION

The aim of the department is to give elementary instruction in pedagogy, with special reference to secondary education. The courses offered, together with Philosophy I, II, III, IV, and V, give the student ample opportunity to meet in full the requirements of the educational code of Pennsylvania for the Provisional Certificate.

COURSE I—History of Education. The development of educational practice and theory in the ancient, medieval, and modern world. Special emphasis upon Greek education, the advance in education inaugurated by the Renaissance, the chief modern educational reformers, and the modern movements in education. Lectures, text-book, collateral readings, theses. Open to juniors and seniors.

First term, three hours.

COURSE II—Principles of Secondary Education. A brief survey of the development of secondary education in Europe and America; the traits of early and middle adolescence, with special reference to the educational needs of the student; the organization, methods, curriculum, and problems of the high school; the place and function of secondary schools in the school system and in American life; the reorganization of secondary education. Lectures, text-book, supplementary readings. Open to those who have taken Philosophy II.

Second term, three hours.

Given in 1920-21.

COURSE III—Educational Psychology. The development of the mind in childhood and adolescence. The facts and principles of the learning process, with reference to instinct, habit, attention, interest, memory, formal discipline, etc. The psychology of writing and reading. Lectures, text-books, laboratory exercises. There will be two lectures and one laboratory period of two hours each week. Open to those who have taken Philosophy II.

Second term, three hours.

Given in 1921-22.

ENGLISH BIBLE

The work in this department is intended to open to the student the rich stores of literature contained in the Bible; to familiarize him with the history of the Hebrew people, their civilization, and their influence on the world; and to lead to the critical study of the spirit and form of Hebrew literature as it is shown in the English version. The English Bible is studied as a great monument of our literature and as the source of our knowledge of one of the great civilizations of the world. The courses do not touch questions of doctrine or belief.

COURSE I—A General Introduction to the English Bible. The evolution of the English Bible will be traced in detail and illustrated by rare original copies of the early translations. The history of the Hebrew people, as told by their own chroniclers, will be studied, especial attention being given to the picturesque biography and the historical crises which vitally affected the development of the nation. A general survey of the different types of literature to be found in the Old and New Testaments will be given. The student will be constantly reminded of the influence of Bible thought and phrase upon modern literature. Lectures must be taken down in carefully written note-books.

Throughout the year, one hour.

COURSE II—New Testament History and Literature. Stress will be laid on the importance of understanding the political and religious background of the New Testament life and thought. The growth of the Christian literature will be examined in outline, with constant reference to the new discoveries of contemporaneous documents, after which the life of Christ and the Epistles of St. Paul will be taken up in chronological order and studied both from the historical and literary standpoints. This will be essentially an interpretative course. Open to all who have taken Course I.

Throughout the year, two hours.

Given in 1920-21.

COURSE III—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Palestine from the earliest times down to the IVth century B. C. is studied in connection with the life and development of the Hebrew people. The international connections of the Hebrews are traced, the marked eras of the nation's growth are sharply defined from the Conquest to the Exile, and the later origin of Judaism explained. The principles governing the proper interpretation of all Oriental writings are defined and applied to the early Bible narratives. The relation of the Bible to science is here examined. The literature of the Old Testament, taken up chronologically, is compared with contemporaneous writings. Particular attention is given to the origin, growth, and character of the legal literature and to the theology of the prophets.

Throughout the year, three hours.

Given in 1921-22.

COURSE IV—Biblical Archeology—New Testament. A careful examination will be made of the abundant archeological material illustrating the New Testament. Beginning with a brief sketch of modern discoveries of papyri, it will discuss the new light thrown upon the language of the New Testament and upon the ancient Greek MSS. and earliest versions, and will include a study of many Christian documents recently discovered—"Lost Gospels," libelli, prayers, hymns, sermons, letters, etc.—as well as the early funeral and other inscriptions found in Italy, Asia Minor, and Egypt.

First term, three hours.

Given in 1920-21.

COURSE V—History of the Early Church. This course will briefly consider the condition of the Christian Church at the death of St. Paul and for the quarter of a century following: will study the General Epistles and the Apocalypse of St. John in the light of contemporaneous events; and will examine the social and moral life of the early Church during the next three centuries, in the light of the patristic writings and newly discovered material.

Second term, three hours.

Given in 1920-21.

COURSE VI—Biblical Archeology—Old Testament. An extensive account of recent excavations in Egypt and Babylonia will be given, as well as such new information as has been obtained concerning ancient customs and laws illustrating Bible usages. The world relations of the Hebrew people will be emphasized, certain special important eras wil lbe studied in detail, and the history connected with that of the surrounding nations will be presented. Contemporaneous literature will be examined and parallels with Old Testament literature noted.

First term, three hours.

Given in 1921-22.

COURSE VII—Jewish Life and Literature from the Fourth Century B. C., to the Beginning of the Christian Era. This will include a study of the influence of Persia and Greece upon Palestinian Judaism; a brief sketch of the political development, special attention being given to the war of independence under the Maccabees and its effects; a detailed examination of the rise of the Pharisees and Sadducees; a study of the Wisdom Books of the Old Testament and the non-Biblical Jewish works dating from this era, with particular reference to the Odes of Solomon and other recently discovered literature having marked influence upon the early Christian writers.

Second term, three hours.

Given in 1921-22.

ENGLISH LANGUAGE AND LITERATURE

This department aims to cultivate straight thinking and facility of expression; to acquaint the student with the various fields of English writing from a historical standpoint; and to develop a genuine taste for good literature and the ability to interpret it. The formal study of composition is undertaken in Course I, but in all courses attention is given to correct expression, both oral and written.

COURSE I—English Composition. The principles of rhetoric, the study of selections, and frequent practice in the writing of themes. The course aims to teach the student to

find appropriate thought, its orderly arrangement, and its adequate and easy expression.

Throughout the year, three hours.

COURSE II—Survey of English Literature. A comprehensive view of English Literature from the Old English period to the present time. Lectures and recitations on assigned readings from writers representative of the important periods of English Literature.

Throughout the year, two hours.

COURSE III—American Literature. A general view of writing in America from the first colonial period. Lectures, recitations, and reports on assigned readings.

Throughout the year, two hours.

Given in 1920-21.

COURSE IV—Anglo-Saxon. Bright's Anglo-Saxon Reader, with appropriate readings in reference books on the English language. The course aims not only to give a reading knowledge of Anglo-Saxon, but also to show the development from Anglo-Saxon to Modern English. The work will be especially valuable to students planning to teach English.

First term, three hours.

Given in 1920-21.

COURSE V—Old and Middle English Poetry to the Time of Chaucer. The course includes such Old English poetry as Beowulf, the Wanderer, the Seafarer, and The Battle of Brunanburh; and typical Middle English histories, legends, romances, tales, and lyrics. No knowledge of Anglo-Saxon or Middle English is necessary.

Second term, three hours.

Given in 1920-21.

COURSE VI—Chaucer and the Later Middle English Poets. Most of the time will be spent upon Chaucer; but consideration will also be given to The Vision of Piers the Ploughman, Sir Gawain and the Green Knight, etc., and the ballads.

Second term, three hours.

Given in 1921-22.

COURSE VII—Shakespeare. A detailed study of one or two plays, and a rapid reading of several others.

Given in 1921-22.

First term, two hours.

COURSE VIII—The Age of Milton. The Puritan Period. Milton's early poems. Paradise Lost and Paradise Regained. The Cavalier poets. Seventeenth century prose.

Throughout the year, two hours.

Given in 1921-22.

COURSE IX—English Literature of the Eighteenth Century. The age of Pope and the classic tradition. Early periodical literature. Ballad opera. The beginnings of the English novel. Dr. Johnson and his circle. The romantic movement. Burns.

Throughout the year, three hours.

Given in 1921-22.

COURSE X—Nineteenth Century Poets. The chief British poets from Wordsworth to Tennyson. The Pre-Raphaelites. English verse at the end of the century. Especial attention is given to Tennyson and Browning.

Throughout the year, three hours.

Given in 1920-21.

COURSE XI—Nineteenth Century Prose. Representative writers from Lamb to Stevenson will be studied; particular attention will be given to Lamb, Carlyle, Ruskin, and Arnold.

First term, three hours.

Given in 1921-22.

COURSE XII—English Drama. The course will trace the development of the English drama from its origin to modern times, tracing its growth through the Miracle Plays, Moralities, and Interludes to 1642; the development of the Heroic Drama; the ethical drama of the eighteenth century and the ballad opera; the growth of melodrama and farce.

First term, two hours.

Given in 1920-21.

COURSE XIII—Contemporary Drama. A study of the new

dramatic literature, its technique, aims, and problems, beginning with the later plays of Ibsen.

Second term, two hours.

Given in 1920-21.

COURSE XIV—Prose Fiction. The development of the English novel. The rise of the short-story. The work consists of class-room lectures, and a rapid reading of representative novels.

Second term, two hours.

Given in 1921-22.

COURSE XV—Literary Composition. A course for those who desire to give serious attention to writing in any field. The course will be limited to a very small number who have satisfied the instructor by work submitted in advance of some ability or promise. Much writing will be required, together with assigned readings, and conferences on work done.

Throughout the year, one hour.

Greek Literature in English. A study in the development of some of the fundamental forms of literature and of the distinguishing characteristics of Greek literature. The course is described under Greek VII and may be counted toward a major or a minor in English.

FRENCH LANGUAGE AND LITERATURE

It is the aim of the courses in this subject to give to the student: (1) an accurate knowledge of the language of the present time both as written and spoken; (2) an appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as outlined above is carried on by means of recitations, written exercises and essays, lectures in French, and collateral readings. Much stress is laid from the beginning upon the ability of the student

to express himself directly in the language. With this end in view the work of the class room is conducted in French, and phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I—Elementary French. Olmsted's First Course in French is used as a reference book. Oral and written exercises. Dictation. Reading of easy prose.

Throughout the year, four hours.

COURSE I A—Elementary French. A course designed for students who have had but one year of French in the secondary school. Oral and written exercises. Dictation. Extensive reading of prose. Students who satisfactorily complete this course may be admitted to third year French courses.

Throughout the year, four hours.

COURSE II—Intermediate French. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. Composition and conversation.

Throughout the year, four hours.

COURSE III—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, La Bruyère, Pascal, Bossuet, Fénelon, Mme. de Sévigné, Mme. de La Fayette.

Throughout the year, three hours.

Given in 1921-22.

COURSE IV—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire, Montesquieu, Rousseau, the Encyclopedists, Beaumarchais, Lesage, Marivaux, André Chénier.

Throughout the year, three hours.

Given in 1920-21.

COURSE V—French Literature in the First Half of the Nineteenth Century. A study of the principal authors of this per-

iod: Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Sainte-Beuve, Balzac.

Throughout the year, three hours.

Given in 1920-21.

COURSE VI—French Literature after 1850. A study of the literary movements in France after the decline of Romanticism, with especial reference to the novelists and dramatists. Outside reading will be required in addition to rapid reading from a number of the authors of this period. A brief survey will be made of contemporary writers, including Rostand and Maeterlinck.

Throughout the year, three hours.

Given in 1921-22.

COURSE VII—Teachers' Course. Careful review of syntax with constant practice in composition. A survey of the general principles of phonetics, and their application to French pronunciation. Discussion of methods of teaching French.

All students who expect to teach French should take this course.

Throughout the year, two hours.

COURSE VIII—Outlines of the History of French Literature. A general course in French Literature from its beginnings to the present time. Lectures and assigned readings. Open to all students who have completed at least six hours of French beyond Courses I and II. Particularly recommended to those who expect to teach French.

Throughout the year, one hour.

GEOLOGY

Including Geography, Mineralogy, and Paleontology

Geology deals with the constitution and history of the earth and the character, history, and relationships of the developing life upon it. It explains many of the natural phenomena at hand, or that one meets in travel, and calls forth careful observation and clear thinking. The courses are planned to give thorough

training in the principles of the subject and a sound basis for future industrial, economic, or professional work in its various departments.

COURSE I—General Geology. This course treats of the history of the earth together with its structure and physiography; attention is given to the various agencies which modify the earth's surface, including the atmospheric, aqueous, igneous, and organic; the structure and kinds of rocks, formation of soils, and the deposits of the various economic materials, including coal, oil, gas, ores, and precious stones are considered. Recitations, three hours a week; field and laboratory work, two hours a week. Open to those who have had a course in high school or college chemistry.

Throughout the year, four hours.

COURSE II—Advanced Physiography. This course deals with the physiography of the lands and the oceans, and with the atmosphere in relation to climate and weather conditions. Stress is laid on the method of development of topographic forms, and training is offered in field and laboratory methods in physical geography. In the laboratory and field, types of land forms, the methods of making maps, structural, longitudinal, and cross sections are studied. Recitations, two hours a week; laboratory or field work, two hours a week.

First term, three hours.

COURSE III—Commercial and Regional Geography. In this course a study is made of the geographic basis of commerce and commercial products, and stress is laid on the regional phase of the subject. A more detailed study of conditions in the United States is made the basis for comparison with conditions in other countries. There are many large manufacturing plants and shipping concerns in this region, some of which may be visited. Recitations, three hours a week.

Second term, three hours.

COURSE IV—Mineralogy. Crystallography, blowpipe analysis, and determinative mineralogy. A minor part of the work in the laboratory deals with crystal forms and crystal models,

and a major part takes up the study of about one hundred fifty minerals by means of the blowpipe and other physical and chemical tests. Open to students who have completed a year in chemistry.

First term, three hours.

COURSE V—Paleontology. This course includes the study of invertebrate and vertebrate animal and plant fossils with reference to structure, classification, habitat, and geologic and geographic distribution. The permanency of certain types, the extinction of some groups, and the rise of new forms are noted with the bearing on the theory of evolution. Representatives of the various groups are studied in the laboratory and field. Recitations, two hours a week; laboratory and field work, two hours a week. Open to students who have completed Course I and Biology I, or their equivalents.

Second term, three hours.

GREEK LANGUAGE AND LITERATURE

The aim of the department is to give the student a practical acquaintance with Greek life and thought. This can be adequately gained only through a first-hand knowledge of the literature. By accurate work in the first years of the study of the language the student can acquire the ability to read widely and independently.

Students entering college without Greek may take Greek A, and be prepared to enter the later courses with a minimum loss of time.

It is realized that some students have been denied the opportunity to secure a mastery of the language who would be glad to have something of the inspiration that comes from contact with Greek culture and institutions. For such the courses in Greek art, Greek history, and Greek literature in translation are available.

The department possesses a carefully selected col-

lection of casts of antique sculpture, a considerable number of Greek vases and vase fragments, about a thousand photographs, and several hundred lantern slides.

GREEK A—Elementary Greek. This is a course intended to prepare students to enter Greek I after a year of careful work. After the completion of some such book as Allen's First Year of Greek, selections are read from Xenophon and other Attic authors. Students of some maturity and reasonably well grounded in Latin will be prepared in one year to do the work in Greek I with profit.

Only in exceptional cases will this course, without further work in the subject, be counted toward a degree.

This course may not be taken to remove entrance conditions.

Throughout the year, five hours.

COURSE I—Homer. The Iliad or the Odyssey. Detailed study of two books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Greek Composition. A weekly exercise in composition based on passages from classic authors. The aim is to develop a vocabulary and an accurate knowledge of the fundamentals of Greek syntax. Dictation and impromptu writing of Greek are emphasized.

Throughout the year, four hours.

COURSE II—Lysias. Selected Orations. As an introduction to this part of the work a detailed study is made of the history of Athens in the Periclean age and of the Peloponnesian War.

Plato. The Apology and Crito and selections from the Phaedo. Outline of the history of Greek philosophy.

This course is made the basis of the study of historic Greek life and institutions.

Throughout the year, three hours.

COURSE III—Greek Drama. Detailed study of two plays

and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Iphigeneia in Tauris, and Aristophanes' The Frogs. The course is made not only a study of the origin and development of the Greek drama, but also a study in literary evolution.

Throughout the year, three hours.

COURSE IV—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings.

Throughout the year, three hours.

COURSE V—Greek Testament. A close study of a portion of the New Testament, usually the Gospel of Mark. Familiar and accurate knowledge of vocabulary, syntax, and idioms is aimed at. Acts and some of the shorter Epistles are read more rapidly to develop facility in grasping the thought of the original. Much stress is laid on sight reading and on accurate but untraditional translation. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1920-21.

COURSE VI—Greek Literature. Survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

The following courses are open to students who have completed Course I and to a limited number of juniors and seniors who have no knowledge of Greek.

Greek VII—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. Much attention is given to the development of

literary forms. The growth of the Greek drama and its influence on modern drama are closely studied.

Throughout the year, two hours.

COURSE VIII—Classical Archeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean civilization. Greek vase painting. Greek architecture.

Throughout the year, two hours.

COURSE IX—Classical Archeology. Greek Sculpture.

Throughout the year, two hours.

Given in 1920-21.

Courses VIII and IX are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required.

GREEK X—Greek History from the Homeric period to the Roman conquest. The origin and development of social and political institutions among the Greeks, their experiments in popular government, their contribution to medieval and modern civilization. Modern contrasts and parallels are emphasized.

Throughout the year, two hours.

Given in 1920-21.

HISTORY

The aims of this department are to give that knowledge of the facts and philosophy of history which belongs to a liberal education, to equip the student for more advanced work in the historical and social sciences, and to prepare the student for journalism or for the study of the law. With these ends in view the courses are so arranged as to cover a wide field of study in a thorough and orderly manner. The evolution of European civilization from its sources, the growth and influence of Anglo-Saxon institutions, the development of the Modern European nations and of the United States are the general themes of the work.

Especial emphasis is laid upon the Renaissance and Reformation, the French Revolutionary and Napoleonic eras, and the development of the great European powers from the Congress of Vienna to the present time. The settlement and expansion of the American colonies and the social, economic, and political evolution of the United States are given careful and detailed study. History is presented as a real educative process and the close connection between history, political science, and economics is constantly kept in mind, the work in these three subjects being closely coordinated. The department has the appropriate library authorities for the several courses, and source materials are used where available. The method of instruction is a combination of lectures and required reading with written and oral quizzes and class discussion. Course I is required for admission to the succeeding courses.

COURSE I—Europe during the Middle Ages. This is a general course in the history of western Europe from the Teutonic migrations to the close of the Seven Years' War. The first term covers the main developments in the period from the breakdown of the Roman Empire through the Crusades. The second term is occupied with the growth of the national states, and with the religious and political struggles for balance of power. Emphasis is laid on social and economic conditions during the period covered. The text for class guidance is Robinson's History of Western Europe, and assigned readings are given in various sources and authorities.

Throughout the year, three hours.

COURSE II—Modern European History. This course begins with a thorough examination of the various countries in Europe during the period between 1763 and the opening events of the French Revolution. The French Revolution and the Napoleonic era are given adequate treatment in their relation to France

and to the rest of Europe. The work of the Congress of Vienna and the effect of the policies there adopted are studied, in their relation to each of the great European countries and in their international phases. Special attention is given to the unification of Italy and of Germany, to the various constitutional changes in France, and to the formation of the Triple Alliance and the Triple Entente. A careful study is made of the near and far Eastern question, the awakening of Russia, the partitions of Africa, and the situation at the outbreak of the great world-war. The text used for class guidance is Hazen's Europe since 1815. The course is a lecture course with assigned readings and oral and written quizzes.

Throughout the year, three hours.

COURSE III—The Renaissance and the Reformation. The first term is devoted mainly to the Renaissance in Italy and subordinately in England. The political, intellectual, literary, and aesthetic phases of the movement are studied. Burckhardt and Symonds are the authorities used, with Einstein for the English Renaissance. The second term is occupied with the Reformation from Wycliffe to the Peace of Westphalia. The texts are Hausser and Fisher.

This course alternates with Course IV.

Throughout the year, two hours.

Given in 1920-21.

COURSE IV—History of England. This course comprises a brief survey of English history from the Anglo-Saxon invasions to the Norman Conquest, and a more detailed study of the period from 1066 to the present. The text for class room guidance will be Tout's History of Great Britain. This is a lecture course with readings from the sources and authorities.

This course alternates with Course III.

Throughout the year, two hours.

Given in 1921-22.

COURSE V—American History, 1492 to 1830. The purpose of this course is to familiarize the student with the history of America and of American institutions. Beginning with the period of discovery and colonization a careful study is made of the development of the colonies, and of the causes which

led up to the American Revolution. The Revolutionary movement and the period of the Articles of Confederation, the adoption of the Federal Constitution, and the social, economic, and political development of the United States up to the year 1830 are subjected to careful analysis. Bassett's Short History of the United States is the text used for class guidance.

This course alternates with Course VI.

Throughout the year, two hours.

Given in 1921-22.

COURSE VI—American History, 1830 to 1918. This course is a continuation of Course V, and takes up the study of the history of the United States from 1830. The triumph of the Jacksonian Democracy, the annexation of Texas, the controversy over slavery, and the causes leading up to the war between the states are made subjects of careful investigation. The outbreak and progress of the struggle which followed the election of Abraham Lincoln, and the great work done by him in saving the Union and bringing the fight against secession to a successful conclusion are followed step by step. A thorough study is made of the Reconstruction Period, of the development of nationalism since 1870, and of America's growing influence as a world power. Attention is given to the growth of industry and commerce throughout the period after 1860. The same text is used as in Course V.

This course alternates with Course V.

Throughout the year, two hours.

Given in 1920-21.

Greek History—This course is described under Greek X.

Roman History—This course is described under Latin III-A.

These courses may be counted as work in history and are particularly recommended for those who expect to teach history.

ITALIAN LANGUAGE AND LITERATURE

This department offers two courses in which a thorough study of the grammar is made and a good reading knowledge is obtained. The first year is devoted to an intensive study of the grammar and the reading

of easy modern texts. In the second year a study is made of the older Italian classics.

COURSE I—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as De Amicis, Cuore; Goldoni, Il vero Amico; Manzoni, I Promessi Sposi.

Throughout the year, three hours.

Given in 1920-21.

COURSE II—Literature in the Thirteenth and Fourteenth Centuries. Dante, La Divina Commedia; Petrarca, Rime Scelte, etc.

Given in 1921-22. *Throughout the year, two hours.*

LATIN LANGUAGE AND LITERATURE

The courses in the Latin department are intended to direct the student to a systematic study of the language and its development, to acquaint him through a varied reading of the best authors with the leading features of the literature, and to make him familiar with the main facts of Roman history, life, and civilization. Technical grammar and composition are studied only in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and fac-similes of inscriptions and has a good collection of photographs, lantern slides, and antiquities for illustrative purposes.

The instruction is given by means of recitations, supplemented by lectures and, in the advanced courses, by individual work.

LATIN A—Cicero. Selected orations. May be accepted as one unit for entrance.

First term, five hours.

LATIN B—Vergil. Aeneid, Books I-VI. May be accepted as one unit for entrance.

Second term, five hours.

COURSE I—Cicero, De Senectute or De Amicitia. Selections from Pliny's Letters, or selections from Cicero's Letters. Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation.

Throughout the year, four hours.

COURSE II—Horace, selected Odes and Satires.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's life and philosophy, and to as much of the history and customs of the period as sheds light on the subject matter.

Readings from Latin Verse of all periods, including one play of Terence. History of Latin literature.

Throughout the year, three hours.

COURSE III A—Roman History. A study of the history of Rome from the early period through the establishment of the Empire, with especial reference to the development of the Roman Constitution and political institutions, the growth of the democratic movement, and Rome's contribution to the civilization of later periods. This course may be taken without Latin preparation and may be counted in the department of History.

Throughout the year, two hours.

B—Latin readings and investigations parallel to and illustrative of the material in Latin III A.

Throughout the year, one hour.

Open to all who have completed or are taking Course II.

Given in 1921-22.

COURSE IV—Roman Private Life. Lectures on Roman Private Life with collateral readings in Latin, largely from Pliny's Letters, illustrating the subjects treated. In addition to the Latin readings, library readings and reports on specific subjects in connection with the course are required. The department has a collection of antiquities, charts, and models for illustrative purposes.

The course alternates with Course III. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1920-21.

COURSE V—Roman Topography and Architecture. A lecture course which does not limit the field strictly to the topography of Rome, but attempts to give a general knowledge and appreciation of the City of Rome, its architecture, monuments, history, and customs, as well as its contribution to modern civilization and life. The department has a good collection of illustrative material—maps, topographical models, charts, photographs, and lantern slides. The library contains most of the important books in English needed for the course, in which students are required to do considerable collateral reading.

May be elected without previous preparation in Latin.

Throughout the year, two hours.

Given in 1921-22.

COURSE VI—Advanced Latin Composition. Practice in writing prose, with careful study of syntax and idiom. Individual work designed primarily for those who look forward to teaching or to graduate work. One hour class work and one private conference weekly.

All students expecting recommendations to teach Latin should take this course. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1920-21.

MATHEMATICS

The courses in this department are arranged with a view to develop in the student a certain degree of mathematical maturity and to familiarize him with the subject matter and methods of mathematical work, as well as to provide for the more or less technical and

traditional requirements in the different mathematical subjects.

COURSE I—Algebra and Trigonometry. This is a continuation of the algebra required for entrance. Much attention is given to graphical representation of linear and quadratic equations, and the following topics are considered: mathematical induction and the binomial theorem for positive integral exponents, logarithms, undetermined coefficients, permutations and combinations, the theory of equations and an elementary treatment of determinants. The elements of trigonometry on the plane and on the sphere.

Throughout the year, four hours.

COURSE I A—Solid Geometry, Algebra and Plane Trigonometry. This course is offered to those who do not present solid geometry for entrance but who desire to continue their mathematical studies. It includes work in what might be termed intermediate algebra, rapidly reviewing quadratic equations and reading some new chapters. The course concludes with a study of plane trigonometry.

By arranging in advance with the instructor and the registrar, this course may be discontinued at the close of the section on solid geometry.

Throughout the year, four hours.

COURSE II—Analytic Geometry and Calculus. An elementary treatment of the fundamentals of analytic geometry, of two and three dimensions. This course includes a complete elementary treatment of differential and integral calculus.

Throughout the year, four hours.

COURSE II A—Selected Chapters in Mathematics. This course requires Course I or Course I A, and is composed of an introductory chapter on elimination, including the use of determinants; the study of the algebraic polynomial, by means of graphical representation; the analytic geometry of the line and the more important theorems of equations; the definition of a derivative; simple applications of the calculus to problems involving tangents, maxima and minima; and the study of elementary transcendental functions.

This course is especially adapted to those who are expecting to teach secondary mathematics.

Throughout the year, three hours.

COURSE III—Advanced Calculus. This course is a continuation of Course II. It should be taken by those who intend to pursue advanced work or are looking forward to work in applied mathematics. This course presupposes Course II or Course II A.

First term, three hours.

COURSE IV—Differential Equations. An elementary treatment of differential equations, with applications to physics and mechanics. This course is necessary to a well-rounded course in mathematics.

Second term, three hours.

COURSE V—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometry of Position; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1921-22.

COURSE VI—Functions of a Complex Variable. A general introduction to the theory of functions of a complex variable.

Throughout the year, two hours.

Given in 1920-21.

PHILOSOPHY

The courses of the department are planned with the following purpose: to bring about reflective views of human society and the world order; to establish an attitude toward life and its problems that will make the individual an efficient factor in promoting and conserving the welfare of his fellowmen; to lead the student to a better understanding of the laws of human

nature, and to a critical study of himself; and to acquaint those desiring it with laboratory methods in psychology. The standpoint is in strict accord with the assured results of scientific research. Facts are brought together from the various fields of science, and presented in such a way as to produce breadth of vision in the interpretation of natural and social phenomena.

COURSE I—Logic. The nature and function of thought; the methods of science; errors of perception, memory, and testimony; immediate and mediate reasoning; material and formal fallacies; the logic of argumentation. Text-book, assigned readings, lectures, and written exercises. Open to juniors and seniors.

Second term, three hours.

COURSE II—General Psychology. The structure and the functions of consciousness are exhibited by means of lectures, class-room demonstrations, and recitations. The subject is treated from the standpoint of natural science. Each student is required to perform a limited number of experiments. Open to juniors, and to sophomores who major in the department.

First term, three hours.

COURSE III—Experimental Psychology. An introductory course for students who desire to become acquainted with the methods of investigating psychological phenomena. Experiments in the psychology of the special senses, attention, memory, feeling, fatigue, reaction-time, etc. Lectures, laboratory work, and supplementary readings. Two hours of laboratory work for one hour of credit. Open to those who have taken or are taking Course II.

Throughout the year, two hours.

COURSE IV—Social Psychology. An examination of the social implications of mental development in the individual and the race. The influence of the social environment upon the development and the organization of native tendencies; the rise of self-consciousness; the evolution of the social consciousness

through the application of moral judgment. The psychology of the crowd, of fashion, and of custom. Lectures, text-book, collateral readings. Open to those who have taken Course II.

First term, two hours.

Given in 1920-21.

COURSE V—Ethics. An introductory study of the moral life from the standpoint of its development, theory, and practice. An attempt to lay a rational basis for the moral life in the individual. Lectures, text-book, written exercises, and supplementary readings. Open to those who have taken Course II.

Second term, three hours.

COURSE VI—History of Ancient and Medieval Philosophy. A survey of the development of philosophic thought from Thales to the Renaissance, considered in its relation to the sciences and to religious, social, and political conditions. Special attention is given to Democritus, the Sophists, Plato, and Aristotle, and their influence upon subsequent thought. Open to juniors and seniors.

First term, two hours.

Given in 1921-22.

COURSE VII—History of Modern Philosophy. The growth of philosophic thought from the time of Bacon and Descartes. The relations are exhibited which philosophy has sustained to the development of modern civilization. Lectures, text-book, and assigned readings. Open to juniors and seniors.

Second term, two hours.

Given in 1921-22.

COURSE VIII—Current Philosophical Tendencies. A course designed to acquaint the student with contemporary tendencies in philosophical thought. The standpoints of outstanding present-day philosophers in Europe and America will be discussed. Lectures, collateral readings, and theses. Open to seniors, and to juniors who have had two courses in philosophy.

Second term, two hours.

Given in 1920-21.

COURSE IX—Theism. The true basis of knowledge is inquired into, the traditional arguments for the existence of God are critically examined, and the attempt is made to show that the theistic conception of the world is a necessary postulate of reason and of human life as a whole. Open to all who have taken Bible I, and have taken or are taking Course II.

First term, two hours.

Given in 1921-22.

COURSE X—Philosophy of Religion. The origin and nature of religion; the relation of the philosophy to the history of religion; the trustworthiness of the religious consciousness; the universal element in all religions; the philosophy of primitive beliefs and practices, such as fetichism, magic, and sacrifice; the characteristics which distinguish tribal, national, and universal religions; the causes of variation in religion; the reason why so few religions have been missionary; the relation of religion to secular life, to science and art, to morals and theology; the ultimate value of religion; the religion of the future. Lectures, text-books, theses. Open to those who have taken Bible I, and have taken or are taking Course V.

Second term, two hours.

Given in 1921-22.

COURSE XI—History of Religion. This course will treat of the earlier forms of religious worship, and the origin of the great historic cults. It will give special attention to the tenets of the ethnic religions at the epoch of their highest development, and will trace sympathetically the essential influences of these religions upon national and social life, and specially upon morals and personal religious experience. The relation of Christianity to the cycle of ancient historical religions will be considered. Lectures, text-books, and theses. Open to those who have taken Bible I, and have taken or are taking Course II.

First term, two hours.

Given in 1920-21.

COURSE XII—Philosophic Basis of Christian Fundamentals. After a brief consideration of the nature and value of religion in general, this course will take up the importance of environment upon Christian origins, and the relation of Christianity to

the contemporaneous Jewish and Gentile religions, noting essential agreements and differences. This will be followed by an attempt to define the true nature and essence of Christianity, and to state briefly the philosophy of such distinctive Christian doctrines as the incarnation, atonement, miracles, Christian faith, conversion, etc. Christian ideals will be examined in the light of present-day problems of civilization and culture; the question will be raised whether the supremacy and ethical transcendence of Christ do not represent the ultimate ideal of religion, and insure the finality of Christianity. Open to those who have taken Bible I, and have taken or are taking Course V.

Given in 1920-21. *Second term, two hours.*

PHYSICS

This department offers courses which contribute to general culture, and those which give training for technical work. They are presented by means of lectures with experimental demonstrations, combined with recitations and discussions of problems. In addition the student performs experiments in the laboratory for the purpose of obtaining a practical knowledge of the fundamental laws and principles of the science.

COURSE I—College Physics. This course aims to present the fundamental principles of physics, develop its laws, and acquaint the student with the relation between energy and matter. These principles and laws are presented in the study of mechanics; and their applications to heat, sound, light, and magnetism and electricity follow. Lectures and recitations, three hours a week. Laboratory work two hours.

Throughout the year, four hours.

COURSE II—A Problem Course to supplement Course I. Open only to students who are pursuing Course I.

Throughout the year, one hour.

COURSE III—Elementary Analytic Mechanics. A course which deals with the mathematical side of physics. Special

attention is given to the solution of problems in statics, kinematics, and kinetics, and other problems related to technical as well as advanced work in physics. Physics I and Mathematics II are prerequisites.

Throughout the year, two hours.

Given in 1920-21.

COURSE IV—Physical Measurements. A lecture and laboratory course involving the adjustment and use of instruments of precision. The significance and accuracy of results, together with the sources of errors and means of their elimination are carefully discussed. Open to students who have completed Course I.

Throughout the year, three hours.

COURSE V—General Physics. A course in theoretical physics dealing principally with mechanics, heat, the properties of vapor and gases, the theory of solutions, the kinetic theory of gases, thermo-dynamics, magnetism and electricity. Lectures, experimental demonstrations, and recitations, two hours a week. Laboratory work, four hours a week. Open to students who have completed Course I and Mathematics II.

Throughout the year, four hours.

COURSE VI—History of Physics. Open as a free elective to students who have completed Course I.

Throughout the year, two hours.

Given in 1921-22.

COURSE VII—Electrical Measurements. Lectures and recitations, supplemented by laboratory work in the theory of measurements designed to acquaint the student with the practical methods of measuring electrical quantities. It includes the standard methods of determining resistance, current, E. M. F. capacity, induction, conductivity, etc. One hour, lecture and recitation; four hours, laboratory. Open to those who have completed Physics I and Mathematics I.

First term, three hours.

COURSE VIII—Direct and Alternating Currents. A study of the production, control, and distribution of the electric cur-

rent. Special attention is given to the dynamo and motor, not in the sense of an engineering problem of construction, but in their relation to the utilization of electrical energy. The course includes the principles and practice of transformation and conversion of alternating currents. One hour, lectures and recitations; four hours, laboratory work. Open to students who have completed Physics VII.

Second term, three hours.

OTHER COURSES. For students desiring to specialize in physics, courses dealing with any of the subjects treated under this department will be given as the work is demanded.

POLITICAL SCIENCE

The courses in this field are planned so that emphasis is laid upon the organization and functions of national, state, and local governments in the United States, with the two-fold purpose of preparing students for the privileges and responsibilities of citizenship, and of familiarizing them with a concrete example of government as a foundation for the more advanced theoretical work in the nature and functions of the state in general. Three courses are devoted to government and modern political problems, and one course is offered on the general principles of political science. There are also courses on constitutional law and on international law.

COURSE I—American Government and Politics. This course comprises a study of the structure and functions of our national and state governments. Throughout the course present-day political problems of national and local interest will be made subjects of class discussion. Beard's American Government and Politics and Bryce's American Commonwealth are used as outlines for the work. *First term, three hours.*

COURSE II—Municipal Government. This course includes an outline of the growth of American municipalities and a study

of the organs and functional mechanism of modern cities of the United States and Europe. Emphasis is laid upon the newer tendencies in municipal government, the commission form of government and the city-manager plan coming in for thorough analysis. Munro's The Government of American Cities, and The Government of European Cities by the same author furnish a basis for the work.

Second term, three hours.

COURSE III—Comparative Government. A study is made of the constitutional structure and organization of the governments of the more important European countries. The object of the course is to enable the student to compare these governments, both in theory and in their practical workings, with each other and with our own. The course is open only to those who have had Political Science I and II and History I, as these courses are necessary to a proper understanding of the subject matter of this work. Ogg's Governments of Europe is the text-book used.

First term, two hours.

COURSE IV—Principles of Political Science. This course comprises a study of the origin, nature, and functions of the state and a critical examination of ancient, medieval, and modern political theories. The requirements for admission to this course are the same as for Course III. Garner's Introduction to Political Science furnishes the general outline for the course.

Second term, two hours.

COURSE V—Constitutional Law of the United States. This course is intended to familiarize the student with the leading principles of the American constitutional system. The course will deal principally with the federal constitution and with the decisions of the Supreme Court of the United States. This course will be found of special value to those students who contemplate advanced work in political science or who intend to enter upon the study of the law.

Given in 1921-22. *Throughout the year, two hours.*

COURSE VI—International Law. The object of this course is to set forth the rules and principles of international law as a positive system with an historical background of custom and

convention. The attributes of sovereign states, and their rights and duties as members of the family of nations, in peace, in war, and in the relation of neutrality, will receive adequate treatment.

Given in 1920-21. *Throughout the year, two hours.*

PUBLIC SPEAKING

The courses in public speaking are designed to train the student in the composition and the delivery of the various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I—Written analysis and interpretation of extracts from great orations. Extemporaneous speaking. This course aims to develop directness, earnestness, and dignity in public address. During the first term a careful study is made of the psychological principles which govern effective speaking. Sample speeches are studied, and assigned passages are delivered by each student. During the second term the same work is continued but more extemporaneous work is required.

Elective for all who are taking or have completed English I.

Throughout the year, one hour.

COURSE II—Argumentation and Debate. First term. In this term the emphasis is laid upon theory. The principles of analysis, the rules of evidence, the elements of logic, and the kinds of fallacies are discussed. There is also brief-drawing leading up to written and oral debate. Second term. The theory of the subject is concluded; the emphasis, however, is laid upon practice.

Elective for all who have completed Course I.

Throughout the year, one hour.

COURSE III—Forms of Public Address. A detailed study is given the underlying principles of effective speaking, with their application to the various types of speeches commonly found in civic and political life.

Elective for all who have completed Course I.

Throughout the year, one hour.

COURSE IV—Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation. A systematic study of voice culture is begun in this course. The "Natural Tone Drill" is the system used. A study of the principles underlying gesture work is also required.

Elective for all who have completed Course I.

First term, two hours.

COURSE V—The study of voice culture is continued in this course in a more advanced and technical way. Dramatic readings from Shakespeare and interpretative studies of the masterpieces of literature will be given each student.

Elective for all who have completed Course IV.

Second term, two hours.

SPECIAL WORK for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

SPANISH LANGUAGE AND LITERATURE

This department offers two courses in which a thorough study is made of the grammar and a good reading knowledge is obtained. Concurrent with the present trend of things, considerable attention is given to study of practical Spanish, including familiarization with commercial language. Attention is also given to conversational work.

COURSE I—Elementary Spanish. Espinosa and Allen's Elementary Spanish Grammar, with abundant oral and written exercises. Reading of such easy Spanish as Alarcón, El Capitán Veneno; Galdós, Doña Perfecta.

Throughout the year, three hours.

COURSE—Intermediate Spanish. A study of modern Spanish novels and dramas. Composition work is continued with some such text as Umphrey's Spanish Prose Composition.

Throughout the year, three hours.

SURVEYING AND GRAPHICS

The courses in surveying and graphics are based largely on the needs of the civil engineer and the draughtsman. The work is scientific and yet thoroughly practical in its scope and methods. While these courses are provided for students taking B. S. Group IV, they are open as electives to all students.

COURSE I—Descriptive Geometry and Elementary Mechanical Drawing. The problems are those relating to the point, line, and plane, the representation of surfaces, their intersection and development. This course includes instruction in the use and care of instruments and simple drawing in orthographic, isometric and cabinet projections.

Throughout the year, four hours.

COURSE II—Plane Surveying. This course consists of a series of lectures, supplemented by exercises in the field. The student is taught the use of the chain, tape, compass, transit and level. The work in the drawing room consists of the computations incident to the work of the surveyor and in plotting from notes taken in the field. Open to students who have completed Mathematics I.

First term, three hours.

COURSE III—Railway Surveying. This course consists of a study of railway curves and earthwork. The field work includes a reconnaissance, the preliminary and location surveys, and the necessary computations and maps. Open to students who have completed Course II.

Second term, three hours.

COURSE IV—Mechanical Drawing. This course includes plotting, tracing, the making of blue prints, detail and dimension drawing from sketches, models, and from other drawings with a different scale. Open to students who have completed or are taking Course I.

Throughout the year, three hours.

COURSE V—Applied Mechanics. This course includes a

study of the strength and elasticity of beams and columns, with the application of the principles of mechanics; in the first term to structures of steel and timber, and in the second term to structures of re-inforced concrete. Open to students who have completed or are taking Mathematics II and Physics I. Under certain conditions the course may be taken without completing Mathematics II.

Throughout the year, three hours.

COURSE VI—Structural Mechanics. This course includes a study of strains and stresses with the application of the principles of mechanics to the design of roof and bridge trusses, and the determination of the dimensions and details of the same. Design of a simple bridge with working drawing. Open to students who have completed or are taking Course V.

Throughout the year, four hours.

COURSE VII—Highway Surveying. A study of the methods and materials of modern highway construction and maintenance, supplemented by lectures and papers prepared from government reports and current periodicals. Several short trips will be made to nearby cities to inspect materials and methods of construction. Open to students who have completed Courses II and III.

Given in 1920-21. *Second term, three hours.*

PHYSICAL TRAINING

For Men—The object of this department is to promote the health, increase the strength and secure the symmetrical development of the students. These objects are accomplished by class exercises in the gymnasium during the winter, on the field in the fall and spring, and by periods of optional work after class hours.

Physical measurements and tests are taken upon entrance, at the close of the college course, and at other times as may be necessary. These determine the student's condition and needs, and the character and

amount of exercise necessary to overcome irregular development or deformities that are amenable to physical exercise.

Students will receive personal advice with reference to habits of life, exercise, study and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise is required of all freshmen and sophomores three hours a week, from the middle of October to the middle of May. Exemption will be granted only on certificate from a physician designated by the Faculty Athletic Committee, the examination to be at the student's expense.

For Women—The aim of the work is to promote the general health, freedom, and poise of the body. It is based on Rhythmic Expression, a scientific system of technique founded upon Rhythm, which gives joyous, invigorating, and creative exercise. The body is relaxed, tension is removed, repression is eliminated. Rhythmic Expression stimulates the imagination and develops not only perfect health and coordination of body but also an understanding of beauty in nature and in art.

Two hours of the work are required throughout the year of all freshmen and sophomore women. Special corrective work may be substituted for the above by those who want it. Advanced elective or corrective work is offered to juniors and seniors. The gymnasium is conveniently located in Hulings Hall. Competitive outdoor work is encouraged by the Girls' Athletic Board.

REQUIRED WORK

For graduation in any Group, all work specified as required must be completed, and additional subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. In the senior year a thesis is required.

The regular number is sixteen recitations weekly, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours' work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

LIST OF ELECTIVES

The following list of elective studies includes all subjects that are elective in any of the Groups. Some of the subjects are required in one or more of the Groups, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflicts in hours.

3. So far as possible all required work below his rank as well as Group Electives must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject. No credit toward graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5. The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the course of instruction found on pages 52 to 99.

	First Term	Second Term
Astronomy I	3	3
Astronomy II	..	2
Astronomy III	..	2

	First Term	Second Term
Biology I	4	4
Biology II	1	1
Biology III	4	4
Biology IV	4	4
Biology V	3	..
Biology VI	..	3
Biology VII	3	3
Biology VIII	3	..
Biology IX	4	..
Biology X	..	4
Biology XI	1	1
Biology XII	2	2
Chemistry I	4	4
Chemistry II	3	3
Chemistry III	4	4
Chemistry IV	2	2
Chemistry V	3	3
Chemistry VI	3	3
Chemistry VII	3	3
Chemistry VIII	4	4
Chemistry IX	3	3
Chemistry X	2	2
Chemistry XI	3	3
Economics I, II	3	3
Economics III, IV	2	2
Economics V, VI	2	2
Education I	3	..
Education II	..	3
Education III	..	3
English II	2	2
English III	2	2
English IV, V	3	3
English VI	..	3
English VII	2	..
English VIII	2	2
English IX	3	3
English X	3	3
English XI	3	..
English XII, XIII	2	2

	First Term	Second Term
English XIV	2	..
English XV	1	1
English Bible II	2	2
English Bible III	3	3
English Bible IV, V	3	3
English Bible VI, VII	3	3
French I	4	4
French IA	4	4
French II	4	4
French III	3	3
French IV	3	3
French V	3	3
French VI	3	3
French VII	2	2
French VIII	1	1
Geology I	4	4
Geology II	3	..
Geology III	..	3
Geology IV	3	..
Geology V	..	3
Greek A	5	5
Greek I	4	4
Greek II	3	3
Greek III	3	3
Greek IV	3	3
Greek V	2	2
Greek VI	4	4
Greek VII	2	2
Greek VIII	2	2
Greek IX	2	2
Greek X	2	2
History I	3	3
History II	3	3
History III	2	2
History IV	2	2
History V	2	2
History VI	2	2
Italian I	3	3
Italian II	2	2

	First Term	Second Term
Latin A	5	..
Latin B	..	5
Latin I	4	4
Latin II	3	3
Latin III A	2	2
Latin III B	1	1
Latin IV	2	2
Latin V	2	2
Latin VI	2	2
Mathematics I	4	4
Mathematics I A	4	4
Mathematics II	4	4
Mathematics II A	3	3
Mathematics III	3	..
Mathematics IV	..	3
Mathematics V	3	3
Mathematics VI	2	2
Philosophy I	..	3
Philosophy III	2	2
Philosophy IV	2	..
Philosophy VI, VII	2	2
Philosophy VIII	..	2
Philosophy IX, X	2	2
Philosophy XI, XII	2	2
Physics I	4	4
Physics II	1	1
Physics III	2	2
Physics IV	3	3
Physics V	4	4
Physics VI	2	2
Physics VII	3	..
Physics VIII	..	3
Political Science I, II	3	3
Political Science III, IV	2	2
Political Science V	2	2
Political Science VI	2	2
Public Speaking I	1	1
Public Speaking II	1	1
Public Speaking III	1	1

	First Term	Second Term
Public Speaking IV, V	2	2
Spanish I	3	3
Spanish II	3	3
Surveying and Graphics I	4	4
Surveying and Graphics II, III	3	3
Surveying and Graphics IV	3	3
Surveying and Graphics V	3	3
Surveying and Graphics VI	4	4
Surveying and Graphics VII	..	3

GENERAL INFORMATION

COLLEGE FEES

All students pay a fee of $200 a year, one-half of which is payable at the opening of each term. This includes incidental, library, and gymnasium fees.

In the laboratories the following fees are charged each term:

Astronomy I, II	$ 2.00
Astronomy IV	7.50
Biology I	3.00
Biology III	4.00
Biology IV	5.00
Biology V, VI, VIII	3.00
Biology VII	9.00
Biology IX, X	7.50
Chemistry I	4.00
Chemistry II, III, VI, VII, VIII	7.50
Chemistry IV, IX	5.00
Education III	1.00
Geology I, II, V	2.00
Geology IV	6.00
Philosophy III	1.50
Physics I	3.00
Physics IV, V, VII, VIII	5.00
Surveying I	2.00
Surveying II, III, IV	3.00

In addition, breakage of material is charged at actual cost.

By vote of the students the following additional annual fees are collected by the Treasurer, one-half at the beginning of each term:

Athletics for Men	$10.00
Athletics for Women	6.00
Debate and Oratory	1.00
College Publications	5.50

For this students receive free admission to all games and contests held under college auspices, and free subscription to all college publications, including the college annual.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for. No fees are returned except in case of sickness.

LIVING EXPENSES FOR MEN

The young men of the college board in Cochran Hall, in fraternity chapter houses, or in private families. The cost of board in Cochran Hall is $240.00 a year. This rate is subject to change without notice. The cost in chapter houses and private families is, as a rule, ten to twenty-five per cent. more. One-half the room rent in Cochran Hall is due and payable at the opening of the first term and one-half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half-year's payment, but is not returnable in case the student leaves college. The rate for rooms varies from fifty to one hundred dollars a year for each student. All rooms are to be surrendered not later than noon on Monday of Commencement Week. Residents in the men's dormitories make a deposit of $10.00 at the beginning of the year to cover damage to buildings. The unused portion is returned at the end of the year. The amount for board in Cochran Hall

is due as follows: $60.00 at the opening of the year; $60.00 on the second Monday in November; $60.00 at the opening of the second term; $60.00 on the third Monday in April. If the student has a room-mate, the necessary expenses for a year will fall within the following estimates:

	Low	Liberal
Term and laboratory fees	$200.00	$240.00
Room rent, fuel, light	50.00	100.00
Table board	240.00	270.00
Books	15.00	40.00
Total	$505.00	$650.00

Expenses other than those enumerated depend largely upon the student's tastes and habits, and the college does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more. This, of course, does not include traveling or personal expenses. An economical student can live on $550.00 a year.

A circular detailing the expense of living in Cochran Hall will be sent on request.

FOR WOMEN

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors; and young women have access to all departments of the college, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The hall is under the charge of the Dean of Women, whose influence, as well as that of her competent assistants, is constantly felt in the social, moral, and religious development of the young women under her care.

For the proper maintenance of the hall as a college home for young women, certain specific rules are essential; but it is the policy of the college to make only such regulations as will best protect the interests of those who reside in the dormitory.

The rules governing the conduct of the young women of Hulings Hall were carefully drawn up by the administration of the college and the Dean of Women, and by action of the faculty were entrusted to the Student Government Association of the hall, which assumes the responsibility for the observance of all rules and regulations. Thus under the guidance of the Dean of Women and the executive board of the Association, the young women of the hall are given individual and community responsibility for their conduct in college life. A copy of the regulations for the government of the hall will be sent on request.

The residents of the dormitory maintain in the building the services of a resident trained nurse. This valuable addition to the hall life has been justified by the better conditions for health and comfort afforded the young women. For this purpose an assessment of a five-dollar house fee is made payable at the beginning of the year.

The rooms are furnished with single beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: sheets, pillow-cases, bed covering, towels, and napkins.

The rates by the year, including board, room, heat, and light, are $335.00 for each student. This rate is subject to change without notice. The rooms are all double, so that two students occupy each room. In case a student desires to room alone, there is an additional charge of $50.00. Bills are payable in four installments as follows: $100.00 at the opening of the year, $85.00 on the second Monday in November, $85.00 at the opening of the second term, and $65.00 on the third Monday in April. A deposit fee of $10.00 is required when a room is reserved. This fee is credited on the last payment of the year, but is not returnable in case the student leaves college.

AID TO STUDENTS

Self-Help—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the college or the boarding clubs. Others find in town opportunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the college to help students who help themselves.

The Lindley Endowment—By the will of the late Miss Lucy Lindley, of Meadville, the college received the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid

from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund—In 1904 Mrs. Hettie F. Ballantyne, of Pittsburgh, gave to the college thirty thousand dollars in memory of her husband, James Alexander Ballantyne; the fund is known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expenses, of the sons and daughters of ministers of the Pittsburgh Conference, and of young men from within the bounds of that conference who are studying for the ministry. This fund is administered by the officers of the college faculty on recommendation of a committee of the Pittsburgh Conference.

The George W. Wright Scholarship Fund—This is a gift of $1,000 from the Honorable George W. Wright, of Mercer, Pa., a former student of Allegheny College. The proceeds of this fund are to constitute a scholarship to be awarded each year on the nomination of Mr. Wright's representative.

High School Scholarships—The Board of Trustees has established prize scholarships of one hundred dollars each, to be awarded each year to honor students in the high schools of Pennsylvania ranked first grade by the State Department of Education and schools of like rank in other states in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must be awarded to the one who has maintained the highest scholastic rank during his high school course; if the class numbers more than ten and not over twenty-five, it may go to the first or second in

rank; if the class numbers more than twenty-five and not over fifty, it may go to anyone of the highest three; if there are over fifty in the class the hundred dollar scholarship and a secondary scholarship of fifty dollars may be awarded to any two of the highest five. The amount of the scholarship is credited toward the payment of the fees of the freshman year.

Educational Society Loans—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. The loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference. The loans are made by the Society on the recommendation of the faculty.

No aid from the above mentioned funds, or from any other source, is given to students who use tobacco.

A student having received aid from any of the college funds will be given a letter of dismissal to enter another college only after all such aid shall have been returned.

RELIGIOUS CULTURE

The college was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

Chapel services are held each morning and all students are required to be present. Regular attendance on Sunday mornings at some church, selected by the student, or his parents, is also expected. Prayer meetings are held on Wednesday evening of each week. The results are manifest in the quickening and strengthening of many in the religious life.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Bible study classes and a mission study class are well attended.

The religious influence of the college is not in any sense sectarian, but Christian. On the rolls this year are representatives from sixteen Christian denominations.

THE ADVISER SYSTEM

Each student on entering chooses some member of the faculty, who serves throughout the freshman year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be perfectly fraternal, without restraint on either side. At the beginning of the sophomore year the professor under whom the student chooses to do his major work becomes the student's adviser for the remainder of the course.

HONOR SYSTEM

All college examinations and formal quizzes are conducted under an honor system, by which the presence of instructors in the room is dispensed with, and the student is placed on his honor. The following signed declaration is required to make the examination valid:

"I hereby declare on my honor that I have neither given nor received aid in this examination."

All cases of suspected dishonesty are dealt with by the Student Honor Committee, who are authorized to decide on the question of guilt and to recommend to the faculty that a senior, junior, or sophomore found guilty of a first offense, and a freshman found guilty of a second offense, be dismissed from college.

CLUBS

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members along the lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the college. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Philo-Franklin Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate. The society is under the guidance of representatives of the departments of English and Public Speaking.

Le Petit Salon meets monthly for the purpose of French conversation and study of French art, literature, etc. Its alternate sessions are in conjunction

with the Meadville branch of the Alliance Francaise, an international organization. The membership is limited to thirty and includes the instructors and advanced students in French.

The Modern Problems Club, under the guidance of the department of History and Economics, meets monthly for the discussion of current social, economic, and political problems. This club, which is a branch of the Intercollegiate Civic League, is limited to juniors and seniors.

The Tingley Biological Club, composed of instructors and advanced students in the Biology department, meets fortnightly for the presentation and discussion of papers by the various members; each member presents two papers a year dealing with some phases of biological research.

The Thoburn Club is an organization composed of such men of the college as are fitting themselves for the ministry, missionary work, Young Men's Christian Association service, or any other public religious activity. It brings to the college each year a number of lecturers on such subjects as would naturally appeal to the membership; and holds monthly meetings for social intercourse, intellectual debate, and religious stimulus. It is in close alliance with the Thoburn Chair of English Bible and Philosophy of Religion. For many years it has been one of the best known religious forces in the college.

The Dutton Society of Applied Science, composed of instructors and students in the department of Mathematics and Surveying, meets fortnightly for the discussion by students of problems and current events in the field of applied science, and for the

presentation of technical papers by practicing engineers. Several short trips are made each year to inspect and investigate construction projects in the vicinity of Meadville. All members of the society hold membership in the American Association of Engineers, and it is planned to hold part of the meetings in connection with the local chapter of that organization.

JOHN C. STURTEVANT MEMORIAL FOUNDATION

By a gift of a fund of $5,000, Mr. Paul Sturtevant, '99, and Mr. Watkin P. Sturtevant, '06, have established a Lectureship Foundation in memory of their father, Hon. John C. Sturtevant. The income from this fund is used in providing lectures by eminent men on topics of general interest.

HONORS

At Commencement of each year Honors are awarded as follows:

Graduation Honors

Seniors who have had no grade less than A during their entire college course are awarded "summa cum laude." All other seniors who have had no grade less than B and have maintained an average of A are awarded "magna cum laude." All other seniors who have had no grade less than C and have maintained an average of 88 are awarded "cum laude."

Class Honors

In each class students who have had no grade less than B during the year and who have maintained an

average of A are awarded "First Honors." Other students who had no grade less than C and have maintained an average of 88 are awarded "Second Honors."

PRIZES

Four annual prizes are open for competition among the students of the college classes.

The Wakefield Oration Prize—Mr. James A. Wakefield, of Pittsburgh, offers a prize of fifty dollars in the name of his grandfather, the Rev. Samuel Wakefield, D.D., awarded in February of each year to the young man delivering the best oration. The winner of this prize represents the college in the Intercollegiate Civic Oratorical League Contest held in May.

The Philo-Franklin Oration Prize—The old Philo-Franklin Literary Society has secured a permanent endowment fund of six hundred dollars for prizes in oratory. The income provides a first and second prize. The contest is open only to members of the Philo-Franklin Forum.

Heckel Prizes in Science—Two prizes, a first prize of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburgh. These prizes are awarded for the best two theses written by graduate or undergraduate students upon scientific subjects. The theses are presented on the first day of May and the prizes awarded on the following Commencement Day.

Ballinger Prize—A prize of twenty-five dollars is offered by The A. L. Ballinger Co., of Meadville, to be given each year to that member of the senior class who

has shown unusual excellence in chemistry, under terms agreed upon by the donors and the head of the department of Chemistry.

ATHLETICS

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all men of the college are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. By an arrangement voluntarily entered into by the students, all young men pay $10.00 and all young women $6.00 for the support of athletics. For this they receive season tickets to all games. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be *bona fide* students taking not less than twelve hours work; must have been registered at the opening of the year in which they compete; may not have more than four hours condition, or be delinquent in the current term's work; and may not receive remuneration, directly or indirectly, for their services. The college is a member of the National Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES

The degree of Bachelor of Arts is conferred upon students who complete in a satisfactory manner the requirements under any one of the A. B. Groups. The degree of Bachelor of Science is conferred upon students who complete in a satisfactory manner any one of the Science Groups.

Bachelors of Arts of this college may pursue, in residence, work in not more than two distinct lines of study; and on the completion of a full year's work, including a satisfactory thesis, receive the degree of Master of Arts.

The degree of Master of Science is conferred upon Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the college pays a diploma fee of ten dollars.

REGISTER OF STUDENTS

Graduate Student

Johnson, Vesta I. ..... Meadville
A.B., Allegheny, 1919—English

Seniors

Allgood, Ella Maxine ..... Tionesta
Armagost, Leo Arnold ..... Venango
Baker, Maude Carmeleta ..... Ruffsdale
Barcus, William Dickson ..... Meadville
Baum, Wesley Farber ..... Dawson
Beatty, Othello Ziegler ..... Butler
Benson, Gilbert Andrew ..... Falconer, N. Y.
Bollinger, Giles Mallalieu ..... Meadville
Booth, Edwin Prince ..... Charleroi
Bosworth, Howard Wilson ..... Corry
Brock, John Warren ..... Waynesburg
Brown, D rward Belmont ..... Wheeling, W. Va.
Brownell, Robert Foote ..... Smethport
Campbell, Louden Lee ..... Wilkinsburg
Carew, Elizabeth ..... Erie
Carroll, Kathryn ..... Meadville
Clothier, Reverdy Mead ..... Silver Creek, N. Y
Colley, Thomas Edward ..... Venango
Collins, Alton Laffey ..... Portland, Ore.
Coulsan, Harry Edward ..... Mars
Davis, Helen Marie ..... Woodlawn
Dickey, Harold Westlake ..... Oil City
Diefenderfer, Florence Marguerite ..... Conneaut, O.
Dunn, David Compton, Jr. ..... Meadville
Dunn, Harriet May ..... Connellsville
Evans, Dorothy Magdalene ..... Erie
Farr, Catherine ..... New Albany, Ind.
Freer, Jean ..... Marion, O.
Gamble, Doris Ray ..... Warren
Gibbons, Florence ..... Sharon
Gordon, Wendell Brown ..... Pittsburgh

Goslin, Nelson Samuel ..... Arnold
Green, Ellen Frances ..... Conneaut, O.
Hall, Helen Dorcas ..... Warren
Harbaugh, John Williams ..... Victoria
Hart, Raymond Laurence ..... Saltsburg
Henderson, Joseph Hugh ..... Vanderbilt
Hirst, George Edward ..... DuBois
Hoover, Leonard Hyskell ..... West Bridgewater
Humes, John Jackson ..... Johnstown
Hurst, Alfred Russell ..... Sewickley
Isherwood, James Ernest ..... Canonsburg
Jenkins, Susan Marie ..... Butler
Judd, Cleaveland Chester ..... Meadville
Karsh, Ella Henrietta ..... Erie
Kerr, Norwood William ..... Meadville
King, Helen Elizabeth ..... Uniontown
Kinnear, James Wesley, Jr. ..... Pittsburgh
Kirkpatrick, Marjorie Roudebush ..... Butler
Kramer, Norbert Clair ..... Meadville
Laffer, Cornelius Callender, Jr. ..... Meadville
Laffer, Frederick Sackett ..... Meadville
McCafferty, Thomas Bowles ..... Allison Park
Lu, Ming ..... Canton, China
McEntarfer, Clifford Abraham ..... Union City
McKinney, Gladys Ellene ..... Meadville
McMurren, Elmer LeRoy ..... Edinboro
Megahan, Howard Dougan ..... Wilkinsburg
Meredith, George Frederick ..... Pittsburgh
Miller, Helen Duffield ..... Franklin
Miller, Louis Alfred ..... Meadville
Monroe, Hanson Hill ..... Painesville, O.
Mossman, Harland Winfield ..... Portland, N. Y.
Nelson, Anna ..... McKeesport
Newmaker, Edith Louise ..... Warren
Nickerson, Ralph Joseph ..... Papillion, Nebr.
Norton, Arthur Leroy ..... Phalanx Station, O.
Pappenhagen, Florence Elizabeth ..... Meadville
Parrish, Frank Merrill ..... Carlton
Pierson, Leon Dewey ..... Warren, O.
Piper, James Young ..... Johnstown

Pond, Frederick Logan ..... Meadville
Potter, Edith Prescott ..... Turtle Creek
Preston, John Francis ..... Monessen
Raymond, Gladys Marie ..... Meadville
Reamer, Ronald ..... Monessen
Regester, John Dickinson ..... New Castle
Richmond, Charles Francis ..... Pittsburgh
Robinson, Alice Beryl ..... New Florence
Rowley, Richard Floyd ..... Pittsburgh
Scannell, John Paul ..... Athens
Smith, Harold Leroy ..... Meadville
Speer, Harry Edward ..... Meadville
Stephens, Dallas Malone ..... Meadville
Thoburn, Helen ..... Meadville
Thomas, Gertrude ..... Meadville
Trace, Fred Birch ..... Meadville
Ware, Ralph Hartman ..... Greenville
Wood, Ethel Muriel ..... Franklin
Woodard, Kersey Mendenhall ..... Linesville
Zearley, Lillian Ruth ..... Uniontown

Seniors, 91.

Juniors

Andrews, Helen Elizabeth ..... Conneaut Lake
Bacon, Frank Haskell ..... Meadville
Baldwin, Roger Lee ..... Washington, D. C.
Belknap, Claribel Avis ..... Erie
Bernard, Joseph ..... Farrell
Blass, Marguerite Elizabeth ..... Erie
Blodgett, Warren Pierce ..... Fredonia, N. Y.
Bollinger, Alice Belle ..... Meadville
Brown, Marjorie Elizabeth ..... Meadville
Brumbaugh, Inez ..... Franklin
Brunner, Gladys Harriet ..... Cleveland, O.
Burns, Harland M. ..... Meadville
Carney, William Joseph ..... Erie
Clark, Earl C. ..... Meadville
Cleveland, Margaret ..... Erie
Couard, Eudoxie, ...a Vaulnaveys le Haut (Isere), France
Curry, Dorothy Mae ..... Meadville
Dean, Marjorie ..... Portland, N. Y.
Dunbar, George F. ..... Jamestown, N. Y.
Dwyer, Paul Sumner ..... Kittanning
Ellsworth, Robert Henry ..... Meadville
First, Frances Hester ..... Conneaut Lake
Fix, E. Lester ..... Meadville
Fogo, Joseph Ross ..... Wellsville, O.
Francis, Thomas, Jr. ..... New Castle
Galbreath, Ida Myrtle ..... Leetonia, O.
*Glassman, Abe ..... Warren
Gold, Helen Elizabeth ..... New Brighton
Graham, Nancy Catherine ..... Franklin
Grant, Willard ..... Meadville
Hartman, Marlin Wallace ..... Erie
Helmlinger, John Dyer ..... Pittsburgh
Henderson, John Frederick ..... Wellsville, O.
Hilderbrand, Mary Dunlap ..... Wampum
Howe, Sara Margaret ..... Tarentum
Iams, Merrill Brown ..... Sharpsville
Jelbart, Chester McCabe ..... Meadville

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* Deceased.

Kerr, Dorothea ..... Meadville
Kinney, Alfred James ..... Meadville
Krueger, Irwin Carl ..... Erie
Kruse, Edna Dorothy ..... West Valley, N. Y.
Leberman, Selden L. ..... Meadville
Leffingwell, Victor ..... Meadville
Lermann, Ruth T. ..... Monessen
McCluer, Frederick William ..... Warren, O.
McCreary, John Charles ..... Monaca
McCune, Marguerite ..... Fayette City
McKinley, George Alexander ..... Meadville
Melcher, Webster DeWitt ..... Swissvale
Miller, Florence Agnes ..... Corry
Millhoff, Helen Rebekah ..... Johnstown
Morneweck, Carl D. ..... Greenville
Morrison, Marian ..... Meadville
Nelson, Norman Patrick ..... New Castle
O'Neil, Alyse ..... Hamilton, N. Y.
Painter, Dale B. ..... Butler
Patterson, Harry Bruce ..... Saegertown
Peters, Margaret Elizabeth ..... Meadville
Piper, Charles Edward ..... Derry
Plumb, Stanley E. ..... Youngstown, O.
Potter, Clyde David ..... Nebraska
Powney, Ethel Marian ..... Monessen
Roach, Dorothy Stover ..... Pittsford, N. Y.
Robinson, Daniel Sturgeon ..... Uniontown
Robrecht, Hazel Kathlyn ..... Wheeling, W. Va.
Ruse, Harold Jesse ..... Monessen
Russell, James Oscar ..... Edgewood
Schnell, Frieda Regina ..... North Tonawanda, N. Y.
Shuster, Helen Marguerite ..... Greensburg
Sjoberg, Ruth Olivia ..... Jamestown, N. Y.
Skinner, Clifford Weld ..... Ashville, N. Y.
Stanford, Madeline Natalia ..... Sheffield
Tannehill, Norman Bruce, Jr. ..... Scottdale
Tennies, Raymond Ara ..... East Randolph, N. Y.
Thoburn, Wilbur Collins ..... Meadville
Thurston, Dorothy ..... Meadville
Titus, Margaret Ruth ..... Barnes

Traum, Wilhelmine ..... Meadville
Tuck, Gladys Marie .....Roseburg, Ore.
Turner, Elizabeth ..... Freeport
VanDevander, Don Jackson ..... Pittsburgh
Walker, Anna Jane ..... Bruin
Webb, Paul Adam ..... Erie
Withey, George Lindsay ..... Sloatsburg, N. Y.
Wood, Gretchen Simon ..... Oil City
Zetler, Paul Alan ..... Hazelhurst

Juniors, 86.

Sophomores

Abbott, Marjorie Christine ..... Minneapolis, Minn.
Acosta, Ramona Leonor ..... Sabana Grande, Porto Rico
Baldwin, Ellis Kennedy ..... Tidioute
Beattie, Alfred Wesley ..... Sharon
Bender, Albert Julius ..... Meadville
Bird, George Lloyd ..... Meadville
Bird, John Caraway ..... Meadville
Bittner, Guy Clement ..... Meadville
Bly, Lucile Mildred ..... Jamestown, N. Y.
Booth, George ..... Charleroi
Brevoort, Maurice John ..... Sinclairville, N. Y.
Britton, Winifred Clare ..... Braeburn
Brown, Lena Mae ..... Meadville
Brown, Linnie Winsome ..... Erie
Brown, Marguerite Christina Cameron ..... Pittsburgh
Brown, Martha Priscilla ..... Tionesta
Bushyager, Glenn Ray ..... Jeannette
Carlson, Sidney H. ..... Lakewood, N. Y.
Challener, William Albert ..... Pittsburgh
Chapin, Morris Ezra ..... Union City
Charlton, Emily Marie ..... Meadville
Clough, Lyle Alton ..... Corry
Collom, Harold Liberty ..... Meadville
Cook, Elmer J. .....South Fork
Coombs, Henriette Virginia ..... Woodlawn
Cornell, Owen Montague ..... Wattsburg
Coulter, Sara Eleanor ..... Butler
Crandall, Evelyn Estelle ..... Edinboro
Crooks, Esther Irene ..... Oil City
Crumiine, Kennedy, Jr. ..... Meadville
Cunningham, Ray George ..... Cattaraugus, N. Y.
Dalrymple, Allan Homer ..... North Warren
Davis, Ira Kline ..... Braddock
Davis, Verne Wilson ..... North Braddock
Dickson, Francis Harmon ..... Ashtabula, O.
Doing, Russell Thomas ..... Edinboro
Drake, Lucile ..... Meadville
Duff, Glee A. ..... McKeesport
Dundon, Lynn Culbertson ..... Edinboro

Dusenbury, Marion ..... Conneaut, O.
Eastman, Donald Lang ..... Union City
Eaton, Hamblen Cowley ..... Warren
Ellis, Mildred Frances ..... Meadville
Farley, Harry Patrick ..... Meadville
Fink, Elouise ..... Cambridge Springs
Frazier, David Wilson ..... Conneautville
Fuller, Glade G. ..... Springboro
Gealy, Mary Evelyn ..... Oil City
Gerdon, James Louis ..... Meadville
Gibson, John Arthur, Jr. ..... Butler
Gordon, Alexander Wayne ..... Pittsburgh
Grant, Ruth ..... Parker's Landing
Grimes, Harry Funk ..... Sycamore
Halverstadt, Myra Adella ..... Lisbon, O.
Hamilton, Marion Margaret ..... Conneautville
Hays, William Vincent ..... Oil City
Hazen, Edna Jane ..... Albion
Henry, Mary Grace ..... Aspinwall
Hitchens, Fred Stentz ..... McKeesport
Hitchens, George Edward ..... McKeesport
Hodgson, Wilfred Christy ..... Turtle Creek
Hoover, Amanda ..... Franklin
Horne, Thomas Brinker ..... Pleasant Unity
Houser, Gertrude Katherine ..... Meadville
Hulin, Louise Marion ..... Franklin
Jeffrey, Bess ..... Tranger
Jelbart, Charlotte Abigail ..... Meadville
Jenkins, Paul Whistler ..... Butler
Johnson, Isabel McGilvray ..... Meadville
Jones, Hiram Arthur ..... Beaver
Jordan, William Edward, Jr. ..... Woodhaven, N. Y.
Jubelirer, Harold Isaac ..... McKeesport
Kamerer, James William ..... Greenville
Kelly, Robert H. ..... Salamanca, N. Y.
Kendall, William Downs .....Lakewood, N. Y.
Kennedy, Inez Alberta ..... Oil City
Kerr, Ethel Sarah ..... Oil City
Kirkpatrick, David D. ..... Butler
Kirschner, Gale Reese ..... Edinboro

Kofford, Maurice E. ..... Clarendon
Kramer, Arthur ..... Meadville
Krebs, William Henry ..... Gowanda, N. Y.
Lamon, Margaret Louise ..... New Kensington
Lander, Wilma Elizabeth ..... Monessen
Lanson, Freeman Arthur ..... Tionesta
Larsen, Doris ..... Warren
Lawhead, Guy Henry ..... Clearfield
Leberman, Gordon, B. ..... Meadville
Leberman, Harold Davis ..... Meadville
Leffingwell, Guerdon Elisha ..... Meadville
Leffingwell, Harold Randall ..... Meadville
Lillie, Marjorie Eleanore ..... Ripley, N. Y.
Limber, Ralph Clark ..... Sheakleyville
Lindstrom, Marjorie Emelia ..... Jamestown, N. Y.
Lorz, Florian Joseph ..... Meadville
McClure, William Harold ..... Johnsonburg
McCreary, Thomas William, Jr. ..... Monaca
McKinley, Samuel Walter ..... Meadville
McMahon, John Frederick ..... Vandergrift
McMillin, Coral Frances ..... Meadville
Magee, Harry Hudson ..... Pittsburgh
Maitland, Henry Merrill ..... Franklin
Maitland, William Howard ..... Franklin
Meese, Harold Frederick ..... Bradford
Merriman, Ralph Carnegie ..... Wellsville, O.
Miner, Mary Elizabeth ..... New Castle
Murphy, Daniel Joseph ..... Erie
Parent, Fernand Noel ..... Charleroi
Parker, D. LaVerne ..... Avalon
Peabody, Sarah Mary ..... Springwater, N. Y.
Peters, Ruth Marjorie ..... Ashville, O.
Pitt, Harriette Francis ..... Ripley, N. Y.
Plate, Louise Elizabeth ..... Erie
Postance, Alta Lucile ..... Meadville
Proper, John Bowman ..... Tionesta
Richey, William Harold ..... Vandergrift
Roach, John Stover ..... Pittsford, N. Y.
Rose, Helen Amanda ..... Girard
Runninger, Grace ..... Franklin

Russell, Marion Edward ..... Falconer, N. Y.
Schall, Martha Elisabeth ..... Vandergrift
Scott, Ralph B. ..... Carmichaels
Secor, Ralph Brunner ..... Ridgway
Severn, William Erskine ..... Clymer
Shewman, Alon Watson ..... Tionesta
Shumacher, Cecil Maynard ..... Meadville
Smith, Earl Jennings ..... New Castle
Smith, Frederick Edward ..... Meadville
Speakman, Raymond Marshall ..... Exposition Park
Steele, Mildred Glendine ..... Meadville
Stewart, Maxwell Slutz ..... Johnstown
Stoner, Mildred Louise ..... Scottdale
Stuntz, Gertrude ..... Girard
Sullivan, Ethel Mary ..... Tryonville
Summ, Walter H. ..... Edgewood
Swanson, Ethel Margaret ..... Sheffield
Swanson, Walter P. ..... Ridgway
Terrill, Joseph Lorence ..... Meadville
Theuerkauf, Frank Joseph ..... Erie
Theuret, Ralph Alfonso ..... Meadville
Tuck, Ruth Adele .....Roseburg, Ore.
Virtue, Kenneth Graeme ..... Guys Mills
Ware, Harold Glenn ..... Greenville
Warren, Milton Frederick ..... Linesville
Weaver, Ralph Holder ..... Carmichaels
Weckerly, Louisa ..... Meadville
Weller, Clara Mehitible ..... Springboro
Wineman, Paul Raymond ..... Sharon
Wooley, Nelle ..... Scottdale
Worster, Dorothy Julia ..... Norwich
Youngs, Howard Ellis ..... North East

Sophomores, 151.

Freshmen

Agnew, Ralph Palmer ..... Poland, O.
Anderson, Charles Luther .....Jamestown, N. Y.
Anderson, Gifford Leach .....Sinclairville, N. Y.
Avery, Maria Pearl ..... Meadville
Bacon, Ralph Delos ..... Meadville
Barker, Walter Buell ..... Lakewood, N. Y.
Barrett, Almira ..... Denver, Colo.
Bates, Samuel Penniman ..... Meadville
Bigler, Thelma Althea ..... Franklin
Bird, Albert Cotrail ..... Cattaraugus, N. Y.
Bishop, Morley Delamere ..... Andover, O.
Blodgett, Russell Conwell Milo ..... Fredonia, N. Y.
Boak, Raymond Harold ..... New Castle
Boggs, Christine ..... Beaver Falls
Bollinger, Charles Aubrey ..... Meadville
Bowman, Helen Jane ..... Kane
Boynton, Carlyle T. ..... Walworth, N. Y.
Bozic, John Herbert ..... Jeannette
Brinkerhoff, William Lawrence ..... Dunkirk, N. Y.
Brown, Mildred Bennett ..... Meadville
Brown, Willis Everett ..... Ashville, N. Y.
Bruce, Charles Herbert, Jr. ..... Matawan, N. J.
Buchanan, Hugh Henry ..... Hastings, Nebr.
Burdick, Earl Rudolph ..... Colegrove
Canby, Joseph Edward ..... New Castle
Carter, Helen ..... Harbor Creek
Cartwright, Oscar Ling ..... Sharpsville
Chabut, Hector D. ..... Youngstown, O.
Chadderdon, Byron Ai ..... Oil City
Chapin, George Wilson ..... Meadville
Chapin, Norris Walter ..... Union City
Chase, Eleanor Lee ..... Greenville
Clark, Dale ..... Geneva
Clarke, Paul Woodworth ..... Geneva, O.
Cochran, Charles Howard ..... Wilkinsburg
Cook, Harry Clate ..... Ashtabula, O.
Cooley, Ernest Gail ..... Cereal
Cooley, Nancy Mary ..... Cereal
Cottom, Harold V. ..... Dawson

Courtney, Raymond Stephen ..... Guys Mills
Croasmun, Nathan William ..... Redclyffe
Crowley, Martha Virginia ..... Avonmore
Cullum, Edgar Percival ..... Meadville
Cunningham, Roy Cameron ..... Meadville
Davies, Samuel Eugene ..... Oil City
Davis, Everett Rankin ..... Vandergrift
Dickrager, Omar Freeman ..... Tionesta
Dickroeger, Margaret Elizabeth ..... Irwin
Dodge, Ruth Angeline ..... Meadville
Dufford, Earl Willard ..... New Castle
Eimers, Marion Helena ..... Ripley, N. Y.
Emery, Edward Nowlen ..... Mercer
Estep, Ivey Burdine ..... Indiana
Finney, Edwin Ashley ..... Meadville
Fleck, Paul Butler ..... Pittsburgh
Fleming, Ira Ozni ..... Ridgway
Flint, Wilson Revis ..... Wilkinsburg
Foulke, Mildred Pluma ..... Meadville
Foulke, Ruth Maureil ..... Meadville
Frable, Margaret Catharine ..... Latrobe
Funk, Florence Mae ..... Deer Lick
Gailey, Glenn W. ..... McKeesport
Galbreath, Helen Jane ..... Leetonia, O.
Gates, Frederick Harold ..... Oil City
Gergely, Emro Joseph ..... Lincoln Place
Graham, Mortimer Elliott ..... Oil City
Graves, Clifford William ..... Harrisburg
Graves, William Hanford ..... Union City
Greenlund, Tracy Elliott Glidden ..... Warren
Grenelle, Virginia ..... Rochester, N. Y.
Gutzler, Lucy Marie ..... Warren
Hafer, George Byron ..... Coraopolis
Hammerton, Olive Fitz-Randolph ..... Meadville
Hanna, Joseph Laurence ..... Springboro
Henderson, Mary Cora ..... Vanderbilt
Henley, Irvin Miller ..... Edenberg
Henry, William Louis ..... Blairsville
Hickernell, James Wesley ..... Meadville
Hines, Kenneth Arden ..... Meadville

Hollister, Lucy Elwaine ..... Meadville
Hopkins, Miles Waid ..... Erie
Horton, Marcia Mae ..... Wellsville, O.
Hovis, Genevieve McKean ..... Clintonville
Hovis, Josephine Lucile ..... Clintonville
Johnson, Catharine Robie ..... Erie
Johnson, Hubert Elias ..... Erie
Johnson, Marian Davenport ..... Meadville
Johnson, Tracey Lloyd ..... Cattaraugus, N. Y.
Jolly, Frank Lindholm ..... Houston, Texas
Jones, Edwin Clifford ..... Monessen
Jones, Elson ..... Pittsburgh
Jones, Kathro M. ..... Greenville
Jones, William Melville ..... Homestead
King, Elizabeth ..... Meadville
Kinney, Charles Edward ..... Wellsville, O.
Kirk, Harriet Ruth ..... Monessen
Kirkpatrick, Harold Everrett ..... Meadville
Klinestiver, Ralph Henry ..... Sheffield
Klinginsmith, Ray Lawrence ..... Meadville
Kunselman, Everett Burke ..... Verona
Lane, Ruth E. ..... Turtle Creek
Larson, J. Edwin ..... Brookston
Laughlin, John William ..... Shippingport
Lear, Robert Arlington ..... Vandergrift
Lee, Lila Frances ..... Oil City
Leeper, Dorothy Stevenson ..... Terrace
Leffingwell, Helen Lucile ..... Meadville
Loomis, Herschel Hare ..... Larimer
Louden, Linnie Elizabeth ..... Tarentum
Lowrie, Anna Dorothy ..... Oil City
McCafferty, Ruth ..... Allison Park
McCandless, Helen ..... Rochester
McIlvaine, Ruth ..... Meadville
McIntyre, John William ..... Meadville
McKee, Gladys Irene ..... Vandergrift
McMahon, Helen Louise ..... Meadville
McQuiston, Nellie Blanche ..... Meadville
Mack, Bliss Benton ..... Titusville
Mansfield, Malcolm Arnold ..... Meadville

Mars, Lawrence Benjamin ..... Titusville
Marsh, Donnell ..... Waterford
Miller, Andrew Ford ..... Pittsburgh
Miller, Harry Clarence ..... Meadville
Miller, William Francis ..... Bellevue
Mitchell, James Herbert ..... Oil City
Mohney, Russell Daniel ..... Vandergrift
Mook, Paul Vincent ..... Saegertown
Moore, Floyd Harry ..... Meadville
Moore, Marian Lenore ..... Meadville
Morris, Harry Charles ..... Saegertown
Morrissey, John Wesley ..... Meadville
Morrow, Katharine Sybilla ..... Union City
Mountsier, Silas Rush, Jr. ..... Bellevue
Mumaw, John Martin ..... Pittsburgh
Mumford, Edna Elizabeth ..... Warren
Murch, Clifton Yendley ..... Erie
Murphy, Robert Lockart ..... Bellevue
Mussler, Dorothy Ellen ..... McKeesport
Neely, Clarence Herbert ..... Franklin
Nichol, Dale ..... Youngstown, O.
Olsen, Ethel Laura Marie ..... Warren
Parker, William Jerome, Jr. ..... Avalon
Parrish, Olive Lucille ..... Carlton
Penman, Russell Butler ..... Meadville
Perry, Andrew Roger ..... Wilmerding
Pond, Gerald Thompson ..... Meadville
Powell, Ralph Moore ..... Cochranton
Prather, Gerald D. ..... Meadville
Pringle, Gail Willard ..... Franklin
Quinn, David Edman ..... Wellsville, O.
Randall, Walter Robert ..... Meadville
Redman, Anna Royal ..... Braddock
Redman, Theodore Miller ..... Braddock
Rice, Hartley C. ..... Youngstown, O.
Rishell, Ruby R. ..... Johnstown
Roach, Alice Stover ..... Pittsford, N. Y.
Robins, Kathryn Clark ..... Monessen
Robrecht, Daniel Webster ..... Wheeling, W. Va.
Rogers, Harriett Catherine ..... Meadville
Rogers, Madeleine Charlotte ..... Warren

Ross, Julian Lenhart ..... Meadville
Russell, John Robert ..... Edgewood
Schafer, Leonard Alvin ..... Pittsburgh
Schanck, Dorothy May ..... Meadville
Schlafge, Vivian Anna ..... Meadville
Shaffer, Helen Marie ..... Scalp Level
Shirer, John W. ..... Braddock
Shreve, Malcolm Owen ..... Erie
Simmons, Katherine Louise ..... Youngstown, O.
Smith, Victorine ..... Meadville
Sparks, Samuel Manuel ..... Tarentum
Sprague, Raymond Benedict ..... Ellington, N. Y.
Steele, Sarah .... Ruffsdale
Sterling, Homer Ellsworth ..... Meadville
Stoner, William W. ..... Dickerson Run
Strauss, Leda Etna ..... Meadville
Swartout, Helen Louise ..... Garrett, Ind.
Tate, James Harrison ..... Erie
Tesh, Mildred Christian ..... Aspinwall
Thoburn, Charles Stanley ..... Meadville
Tiffany, John Neil ..... Lowell, Mass.
Titus, Harriet P. ..... Barnes
Tobin, Mary Alicia ..... McKeesport
Trotter, Julian ..... Youngstown, O.
Truran, Charles Francis ..... Meadville
Uptegraff, Eugene James ..... Beaver
VanCamp, Virginia ..... Girard
VanGorder, Charles Spears ..... Warren, O.
Venman, Ernest Horace Erick ..... Akeley
Wagner, Adrien Cornelius ..... Meadville
Walter, Roy Davis ..... West Bridgewater
Wills, Charles Howard ..... New Brighton
Wimmer, Charles Robert ..... Meadville
Winslow, Rosalie Elizabeth ..... Dayton
Wise, Ruth Marie ..... Wilkinsburg
Wise, Vernon Laing ..... Butler
Wolf, John Robert ..... West Newton
Wood, Ruth Hazel ..... Corry
Young, Ruth Marjorie ..... Meadville

Freshmen, 199.

Special Students

Culligan, Rhea ..... Meadville
Griswold, Matthew, Jr. ..... Erie
Henry, Don A. ..... Venango
Hitchens, Paul A. ..... McKeesport
Hudepohl, James Henry ..... Tarentum
Mason, George E. ..... Townville
Maxwell, Mary Nichols ..... Meadville
Mook, Milo M. ..... Titusville

SUMMARY

	Men	Women	
Resident Graduates	..	1	1
Seniors	61	30	91
Juniors	46	40	86
Sophomores	95	56	151
Freshmen	128	71	199
Special	6	2	8
Total	336	200	536

DEGREES CONFERRED

June 4, 1919
1919

Doctor of Laws

William Graves Sharp

Doctor of Divinity

John Thomas Nichols
Louis Woodside Sherwin
James Vernon Wright

Master of Arts

Helen Rose Adams

Master of Science

Ralph Smith Dewey
Paul Emerson Hill
John A. Mueller Stewart

Bachelor of Arts

Helen Ruth Abrams
Glenn Ross Barr
Leda Sussanna Brooks
Margaret Oakes Chapin
Mary Musette Clouse
Mack Dickson Cook
Ethel Virginia Curry
Arthur Watson Deutsch
Helen Louise Downing
Stanley Lee Eberlee
Cecil Asenath Edwards
Enoch Crawford Filer
Ruth Fithian
Marie Louise Francis
Eva Claire Gates
Mary Eleanor Hamilton
Fletcher Horace Hammon
Aileen Hayes Hodgkinson
Inda Arlene Horth
Pearl Helen Horth
Margaret Martha Houghton
Vesta Irene Johnson
Francis Earl Kirkpatrick
Virginia Whitney Lewis
Henrietta Elizabeth Leyda
Judson D. Longanecker
Harold Adams McCurdy
John Owen Martin
Ruth Pauline Miller
Edna Carr McCabe
Gertrude Elnora Monroe
Hattie Susan More
Francis William Morrow
Meredyth Neal
Nellie Kinkead Reniers
Marjorie Agnes Rhodes
Ida Lucile Richard
Madeleine Louise Rishell
Louise Adaline Root
Serena Augusta Salchow
Charles William Spangle
F. Leslie Stewart
Doris Marjorie Stockdale
Helen Jeannette Strickland

Crawford Bennett Thoburn
Charles Lenwood Walker
Roy A. Welker
Marian White
Olevia Rebecca Widdowson
Zella Marion York

Bachelor of Science

Joseph Silliman Baldwin
Arthur W. Doane
Rae Edgar Falkinburg
Robert Lee Faulkner
Earl Dewey Hall
Edward Frank Heckman
Charles Luther Jones
Mary Agnes Kelly
Scott Richard Lackey
Harry Bryan Muckinhoupt
Gordon Derby Patterson
George Arthur Stetson
John P. Volk
Harold Martin Wiltsie
Henry Rump Winkler
Winfield Scott Zehrung, Jr.

AWARD OF HONORS

Commencement, 1919

GRADUATION HONORS

Magna Cum Laude

Charles Luther Jones
Virginia Whitney Lewis
Meredyth Neal
Zella Marion York
Winfield Scott Zehrung, Jr.

Cum Laude

Arthur Watson Deutsch
Robert Lee Faulkner
Mary Eleanor Hamilton
Gordon Derby Patterson
Nellie Kinkead Reniers
Ida Lucile Richard
Louise Adaline Root

JUNIOR HONORS

First Honors

Giles Mallalieu Bollinger
Susan Marie Jenkins
Gladys Ellene McKinney

Second Honors

Maude Carmeleta Baker
Harriet May Dunn
Dorothy Magdalene Evans
Florence Elizabeth Pappenhagen
Edith Prescott Potter
Richard Floyd Rowley

SOPHOMORE HONORS

First Honors

Alice Belle Bollinger
Helen Rebekah Millhoff
Helen Marguerite Shuster

Second Honors

Gladys Harriet Brunner
Thomas Edward Colley
Helen Elizabeth Gold
Irene Eleanor Haynes
James Wesley Kinnear, Jr.
Ruth T. Lermann
Frederick William McCluer
Florence Miller
Harland Winfield Mossman
Ethel Marian Powney
Margaret Ruth Titus

FRESHMAN HONORS

First Honors

Glenn Ray Bushyager
Emily Marie Charlton
Elmer J. Cook
Coral Frances McMillin
Harriette Francis Pitt
Helen Amanda Rose

Second Honors

John Arthur Gibson, Jr.
William Glassman
Paul Whistler Jenkins
Walter P. Swanson

PRIZES

The Wakefield Oration Prize
Thomas E. Colley

The Philo-Franklin Oration Prize
Raymond L. Hart

The Heckel Prize in Science
Gordon D. Patterson

The Ballinger Prizes
First Prize, Winfield S. Zehrung, Jr.
Second Prize, Gordon D. Patterson

PHI BETA KAPPA

ETA CHAPTER OF PENNSYLVANIA

Chartered September 2, 1901

OFFICERS

President

President William H. Crawford

Vice President

Hon. John J. Henderson

Secretary

Professor William A. Elliott

MEMBERS INITIATED IN JUNE, 1919

Senior Class

Robert Lee Faulkner
Mary Eleanor Hamilton
Charles Luther Jones
Virginia Whitney Lewis
Meredyth Neal
Gordon Derby Patterson
Zella Marion York
Winfield Scott Zehrung, Jr.

THE SUMMER SESSION

The Summer Session of Allegheny College will be held from Monday, June 21, to Saturday, July 31. Instruction will be given every week day for the six weeks. For each course two term hours credit will be given, which will count toward a degree. For each entrance course one-half unit will be allowed, unless otherwise specified.

The plan of the summer school is to give work that will meet primarily the needs of the three following classes of students: (1) teachers who may desire a better training for their work in the class room, or who are preparing to pass examinations required for the various teachers' certificates; (2) college students who may desire to obtain advanced college credits or to remove conditions, and even high school students desiring to remove entrance conditions for admission to college; (3) any person who may desire to enter the courses for the purpose of self-improvement. No requirements are necessary for admission, except that each professor will satisfy himself that the candidate is qualified to be admitted to his course.

Instruction will be given for the most part by the heads of the various departments. The courses will include the languages, the sciences, mathematics, history, psychology, and education.

A bulletin of the summer session detailing the various courses will be published about April 1, and will be sent on application. For information, address the Director,

C. F. ROSS,
Meadville, Pa.

INDEX

Page

Admission, Requirements for 35
Adviser System 116
Aid to Students 113
Athletics 121
Board of Trustees 7
Buildings and Grounds 18
Calendar 5
Clubs 117
Committees of the Faculty 14
Courses of Instruction:
- Astronomy 58
- Biology 59
- Chemistry 62
- Economics 66
- Education 69
- English Bible 70
- English Language and Literature 72
- French Language and Literature 75
- Geology 77
- Greek Language and Literature 79
- History 82
- Italian Language and Literature 85
- Latin Language and Literature 86
- Mathematics 88
- Philosophy 90
- Physics 94
- Political Science 96
- Public Speaking 98
- Spanish Language and Literature 99
- Surveying and Graphics 100
- Physical Training 101

Degrees 122
Degrees Conferred 1918 139
Electives, List of 104
Expenses 110
Faculty 11
Fees 109
General Purpose 34
Historical Sketch 17
Honor System 116
Honors 119
Honors, Award of 141
Hulings Hall 112
John C. Sturtevant Memorial Foundation 119
Laboratories and Museum 24
Library 30
Location 17
Phi Beta Kappa 143
Prizes 120, 142
Register of Students 123
Required Work 102
Requirements for Graduation 51
Scholarships:
- The Ballantyne Scholarship Fund 114
- High School Scholarships 114
- The Wright Scholarship Fund 114

Special Students 138
Summary of Attendance 138
Summer Session 144

378.748
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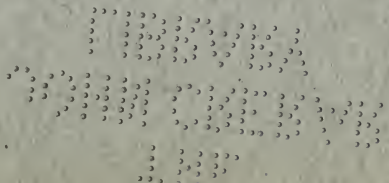
THE COLLEGE BULLETIN SERIES XX, No. 2
MARCH, 1921

ALLEGHENY COLLEGE

FOUNDED IN 1815

CATALOGUE

1920-1921



ONE HUNDRED SIXTH YEAR

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1920-1921

MEADVILLE, PA.
1921

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED BI-MONTHLY
BY THE COLLEGE

SERIES XX, No. 2
MARCH, 1921

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CATALOGUE FOR THE ACADEMIC YEAR 1920-21

AND ANNOUNCEMENTS OF COURSES FOR 1921-22

Contents

	Page
Calendar	5
Board of Trustees	7
Faculty	11
Committees of the Faculty	15
Historical Sketch	17
Buildings and Grounds	18
Laboratories and Museum	25
Library and Reading Room	31
General Purpose	34
Requirements for Admission	35
Requirements for Graduation	51
Courses of Instruction by Departments	57
List of Electives	104
College Fees	109
Living Expenses	110
Hulings Hall	111
Aid to Students	113
Clubs	118
John C. Sturtevant Memorial Foundation	120
Honors	120
Prizes	121, 143
Athletics	122
Degrees	123
Register of Students	124
Degrees Conferred	140
Award of Honors	142
Phi Beta Kappa	144
The Summer Session	145
Index	146

1921

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Calendar

1921.

Mar. 29, Tuesday 8:00 a. m.—Recitations Resumed.

April 24, Sunday—Founders' Day.

June 2-11, Second Term Examinations.

12, Sunday, 10:45 p. m.—Baccalaureate Sermon by President Fred W. Hixson.
5:00 p. m.—Vesper Service.
7:45 p. m.—Annual Sermon before the Christian Associations.

13-14, Monday and Tuesday—Entrance Examinations.

13, Monday. 2:00 p. m.—Class Day Exercises.
4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.
5:00 p. m.—Concert by College Band.
8:00 p. m.—Commencement Concert by the College Glee Club.

14, Tuesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.
11:00 a. m.—Senior Farewell to Buildings.
11:30 a. m.—Business Meeting of the Alumni Association.
12:45 p. m.—Alumni Luncheon.
3:00 p. m.—Organ Recital by Dr. William C. Carl.
4:00 p. m.—Campus Pageant. Music by College Band.
8:00 p. m.—Phi Beta Kappa Address.
9:15 p. m.—Band Concert and Illumination of Campus.

15, Wednesday, 9:30 a. m.—Commencement Exercises.
1:00 p. m.—President's Luncheon.
6:00 p. m.—Fraternity Dinners.

20, Summer Session Begins.

July 30, Summer Session Ends.

1921. SUMMER VACATION

Sept. 20, Tuesday—First Term Begins.

19-20, Monday and Tuesday—Entrance Examinations.

20, Tuesday—Registration of New Students.

21, Wednesday—Registration of Old Students.

22, Thursday, 8:00 a. m.—Recitations Begin.

Nov. 2, Wednesday—Last Day for Submitting Subjects of Senior Theses.

24, Thursday—Thanksgiving Day, a Holiday.

Dec. 2, Friday—Wakefield Oration Contest.

16, Friday, 12:00 m.—Recitations Close.

CHRISTMAS RECESS

1922.

Jan. 3, Tuesday, 8:00 a. m.—Recitations Resumed.

19, Mid-year Meeting of Board of Trustees.

26-Feb. 3, First Term Examinations.

Feb. 3, Friday—First Term Ends.

7, Tuesday—Second Term Begins. Registration of Students.

8, Wednesday, 8:00 a. m.—Recitations Begin.

9, Thursday—Day of Prayer for Colleges.

22, Wednesday—Washington's Birthday, a Holiday. The College Dinner.

Mar. 1, Wednesday—Last Day for Submitting Senior Theses.

10, Friday—Philo-Franklin Oration Contest.

April 7, Friday, 12:00 m.—Recitations Close.

SPRING RECESS

April 18, Tuesday, 8:00 a. m.—Recitations Resumed.

24, Monday—Founders' Day.

May 30, Tuesday—Memorial Day, a Holiday.

June 21, Wednesday—Commencement.

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Term expires January, 1924

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Term expires January, 1924

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Term expires January, 1925

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BYRON A. WALKER, ... Erie

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JOSEPH W. MILES

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DEAN OF WOMEN
Hulings Hall

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372 East College Street

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301 Center Street

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BEATRICE B. COTTON
Secretary to the Dean

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Hulings Hall

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304 Prospect Street

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524 Park Avenue

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350 Rose Lane

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Cochran Hall

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385 George Street

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304 Prospect Street

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Instructor in Romance Languages
636 North Main Street

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Instructor in Chemistry
558 Highland Avenue

ELIZABETH M. ROBERTS, A.M.
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414 Walnut Street

ELMA E. DAW, A.B.
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636 North Main Street

ROBERT W. THOMAS, A.M.
Instructor in English
945 Grove Street

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Registration

Dean Ross — Professor Henke
Professor Lee — Dean Spalding
Professor Coleman

Courses of Study

Professor Elliott — Professor Ling
Professor Henke — Professor Schultz
Professor Church

Administration

The President — Professor Elliott
Professor Lee

Delinquencies

Dean Ross — Professor Henke
Professor Schultz

College Organizations

Professor Akers — Professor McClean
Professor Beiler

Social Functions

Professor Darling — Dean Ross
Dean Spalding

Fraternities

Professor Elliott — Professor Darling
Professor Henke — Professor Ling
Professor Akers — Professor Schultz

Library

Professor Elliott — Professor Schultz
Professor Beiler

Graduate Instruction

Professor Darling — Professor Church

Theses

Professor Schultz — Professor Ling

Debate and Oratory

Professor Henke Professor Darling
Professor Swartley

Athletics and Gymnasium

Professor Lee Professor Hammett
Professor Church

Publications

Professor Schultz Professor Elliott
Professor Coleman

College Book Store

Professor Lee

Catalogue

Professor Ross Professor Akers
Professor Swartley

Bureau of Appointments

Professor Ross Professor Ling
Professor Henke

Honorary Degrees

Professor Elliott Professor Ross
Professor Darling

Description of the College

HISTORICAL SKETCH

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was the Reverend Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 the Reverend Martin Ruter, of the Pittsburgh Conference of the Methodist Episcopal Church, was elected to the presidency. The institution, while pronouncedly Christian, is conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage on account of his religious views.

LOCATION

Allegheny College is located in Meadville, Pennsylvania, on the main lines of the Erie and the Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of about fifteen thousand. It is an old, well-established town, with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town, it has few of the disadvantages of city life. It has most of the advantages of a city, such as paved streets, an effective sewerage system, an abundant

supply of wholesome water from driven wells, arc and incandescent lights, natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of wild and rugged ravines of exceeding beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of botany and geology.

BUILDINGS AND GROUNDS

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred fifty feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with cement walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the college.

Bentley Hall bears the name of the Reverend William Bentley, D.D., of Salem, Massachusetts, who gave his valuable library to the college. The corner stone was laid in 1820. It consists of a central three-story

building with tower, and two wings with massive pillars. The building contains the administration offices of the college and recitation and lecture rooms. The third floor is devoted to the halls of the Philo-Franklin Forum and the musical societies.

Ruter Hall, which bears the name of the Reverend Martin Ruter, D.D., the second president of the college, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the college. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the department of Mathematics and Surveying. The third floor, occupied by the department of Philosophy and Education, contains a lecture room, two laboratories, two offices, and a store room.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women and accommodates about ninety. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has recently been almost entirely refurnished. The rear wing of the building contains on the fourth floor five large society halls; the first and second floors are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is finished throughout in Georgia pine. It is provided with a full equipment of modern apparatus. In the basement are dressing rooms and baths.

An annex to Hulings Hall has recently been completed. In plan and size it corresponds to the

front of the present building. The first floor contains a beautiful colonial dining room which accommodates two hundred. The annex has a standard elevator which connects with all floors. The main entrance to the building is now on the Park Avenue side, with porte-cochère and enclosed porch one hundred feet in length. Hulings Hall accommodates one hundred fifty young women.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the department of Physics. It contains an amphitheater lecture-room, seating one hundred students, physical laboratories, and a basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, recently completed, adjoins the athletic field, a door from the home and the visiting team rooms opening directly upon the quarter mile cinder track, which, together with the oval, is enclosed by a concrete wall. The building is complete in every respect and provides ample facilities for the development of athletics and for the physical training of the student body in general.

The main floor has a clear space of sixty by ninety feet unobstructed by pillars, the roof being supported by steel trusses. The balcony is eight feet wide; upon it is a running track five feet in width. This track will be banked for the training of distance men during the winter season. The main locker room is on the ground floor to the right of the entrance. It contains the best type steel lockers and shower baths. From it

a spiral stairway descends to the swimming pool. The pool is of the regulation length of sixty feet and is twenty-two feet wide and eight feet deep at its greatest depth. It is lined throughout with white tile, is well lighted by large windows with a southern exposure, and is filled with clear, filtered water.

The entrance hall has a terrazzo floor and opens through wide double doors on to the main floor of the gymnasium. Stairs to the left lead up to the trophy room, panelled in rich, dark wood four feet high, with fireplace, andirons, and trophy cases. Adjoining it are the director's office and the physical examination room, the latter equipped with wardrobe and marble enclosed shower bath for the use of officials who direct the athletic games.

The home team room is in the rear of the building. It has a terrazzo floor, marble lined showers, and six-foot steel lockers, a single locker for each man. Adjoining it is the emergency room, with hot and cold water, rubbing down table, and complete equipment for the treatment of sprains and injuries. Overhead are rooms for the second team and for visiting teams, finished in the same elaborate manner.

Under the team rooms is the boxing and wrestling room, with wood floor built over concrete, and air spaced. This floor is covered with felt and the regulation boxing canvas. The walls are padded, and a sixteen foot wrestling mat, two inches thick, has been provided.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D. C. Newton, once a student in the college. It is a

rock-faced stone building of fine architectural appearance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburgh, and was built by the late Julius Neef, of Philadelphia. It has three manuals and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Reis Library, the gift of Mr. William E. Reis, of the class of 1869, was completed in 1902. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and the department seminar rooms. The interior

appointments of the library are entirely in accord with the artistic character of the building.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., provision has been made for a college commons for young men. The building is constructed of brick, with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guest suite. The building not only provides first-class boarding accommodations, and at reasonable rates, but also constitutes a rallying center for the young men of the college. Apart from the dining room and the provisions for a dormitory, there are rooms for the Young Men's Christian Association, which are admirably adapted to their purpose. In addition to the spacious room to be used as assembly, reading, and social room, there are an office for the secretary, a committee room, and a cloak room. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

Alden Hall. This building is used by the department of Biology and Geology. Constructed of gray vitrified brick and terra cotta and roofed with red Spanish tile, it forms an imposing building sixty feet wide by one hundred twenty feet long, with the main entrance on George Street. The spacious halls lined with cases for the display of biological specimens, the rough sand

finish of the walls, and the stained-oak wood-work and furnishings produce a most pleasing interior.

The building is divided on the first floor into a large lecture room in the east end, a library, professor's office, two private laboratories, and four advanced laboratories; on the second floor into four large laboratories, two store rooms, an office, and a vivarium. The basement contains six rooms, which are used by the department for aquaria, work shop, store rooms, etc. The building is exceptionally well-lighted and is well-equipped with tables, lockers, apparatus, etc. Electric lights, water, and gas are supplied to all the rooms.

Carnegie Hall of Chemistry. This building is the latest addition to the group of college buildings and is devoted entirely to the use of the department of Chemistry. The erection of the building was made possible by a gift of $40,000 from the late Andrew Carnegie. This contribution was made with the understanding, however, that the trustees of the college add $10,000 to this sum for the building and, furthermore, that an additional $20,000 be raised for the purpose of providing a definite income for the maintenance of the building. The trustees not only met the terms of the gift but immediately appropriated a generous sum to be used for the purchase of adequate equipment of the laboratories.

With the completion of this building late in the year 1915, the college came into possession of a $70,000 plant for chemistry, not including the equipment, which will amount to approximately $20,000.

The building is constructed of buff tapestry brick with artificial stone trimmings, in the Italian villa

style. The roof is of red Spanish tile. The interior structure is entirely of pressed steel. Owing to the fact that it was deemed advisable for hygienic purposes to substitute heavy four-inch wooden floors for cement, it is necessary to describe the building as of "slow-burning construction."

There are twenty-four rooms in the building. All these rooms have been equipped as offices for members of the instructing staff, or as laboratories for the general courses in chemistry and for research work. The building is supplied with electricity, both A. C. and D. C., high pressure steam for operating steam-baths, and with that which appears to be a satisfactory system for ventilating hoods and laboratories.

LABORATORIES AND MUSEUM

The Physical Laboratory. The department of Physics occupies Wilcox Hall of Science. It comprises a large, well-lighted lecture-room; a general laboratory; special laboratories for heat, light, and electricity; two dark rooms; the professor's office; and department library and store room. The lecture-room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratories. The department of Chemistry occupies the building known as Carnegie Hall of Chemistry. It consists of twenty-four rooms. On the first floor are located the offices of the instructing staff; reading room containing the department library; laboratories for electro-chemistry, quantita-

tive analysis, metallurgical chemistry, physical chemistry, water analysis, gas and fuel analysis; and the hygienic laboratory. The balance room, which is provided with suitable piers, is also located on this floor. On the top floor are found separate laboratories for general chemistry, qualitative analysis, spectrum analysis, and organic chemistry; stock room, preparation room, combustion room, and the large lecture room. In the basement, which has been finished as the two upper floors with the exception of the cement floor, are located the laboratory for agricultural chemistry, small lecture room, stock rooms, and workshops. The desks in all the laboratories are provided with outlets for compressed air, electricity, A. C. and D. C., as well as gas, water and vacuum pumps. The steam baths, which are supplied with high pressure steam, and the hydrogen sulphide outlets are located in glazed hoods, which are ventilated by forced draughts.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope, the objective of which was a gift of Mr. J. C. McDowell, of Pittsburgh, and was made by Brashear, of Allegheny, Pa. The graduated silver circles for this telescope were given by Mrs. Elizabeth Whiting, of Meadville. A seven and one-half inch instrument, made by Alvin Clark and Son, is also included in the equipment. Other equipment includes a transit, a chronometer, a sextant, and a sidereal clock. The clock is the gift of the children of Milton B. Goff, LL.D., in memory of their father, an alumnus and former professor of mathematics in the college. The mountings and other

fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by George N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute field work in astronomy which is of value to engineers. A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock complete the new equipment, which will enable the department to offer to the student work that will be comparable with other observatories having a glass of like magnitude.

Surveying Apparatus. In Mathematics and Surveying all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in these subjects.

The Biological Laboratories, formerly located in restricted quarters on the third floor of Ruter Hall, now occupy, together with Geology, the entire building of Alden Hall, which has been rebuilt and greatly enlarged. This change has greatly increased the number of laboratories and has materially added to the efficiency of the department.

The laboratory for general biology is on the second floor; it is well lighted by north windows and is well equipped with modern laboratory tables, individual

lockers, compound microscopes, and other apparatus necessary to accommodate the large number of students who elect this work. Adjoining this general laboratory is a laboratory for advanced zoology, in which hundreds of specimens illustrating the various orders of animals are displayed. On the south side on this floor is the vivarium, in which are still-water aquaria and insect cages; in the northwest corner is a large laboratory for advanced botany and for economic biology; this laboratory contains the herbaria of the local flora, including fungi, mosses, ferns, and seed plants; also hundreds of microscopic slides for use in these courses.

On the first floor is the large lecture hall supplied with student chairs, a balopticon with several hundred slides, and numerous wall charts; adjoining this room are the professor's private laboratory and a preparator's room in which demonstration material is prepared and stored. The bacteriological laboratory on this floor is equipped with lockers, two steam-pressure autoclaves, a multi-compartment electrically heated incubator, hot-air sterilizers, microscopes, etc. Adjoining this room is the laboratory for histology and embryology supplied with microtomes, multi-compartment paraffin oven, incubators, compound microscopes with oil-immersion lenses, and other necessary apparatus. The laboratory for plant physiology is well equipped with apparatus for studying soils, for seed testing, etc. Opening from this room are a conservatory for growing plants and also a dark room for photographic and experimental purposes. A library with the departmental books and magazines, an advanced bacteriological laboratory, professor's

office, and a store room complete the rooms of the first floor.

In the halls are displayed numerous cases of birds, insects, skeletons, dissected and injected specimens, models, and illustrative and museum material of various kinds. The laboratories throughout are equipped with microscopes and the necessary apparatus to carry on the work of the various courses offered by the department. The tables are supplied with electric desk lamps for use on cloudy days.

In the basement is a room with running-water aquaria for fish and amphibians, and several cages for mice used for demonstration work in heredity; a work shop and store rooms are also in the basement. In the rear of the building is a plot of ground which is to be developed into a botanical garden.

The Geological Laboratory is on the second floor of Alden Hall. It contains laboratory tables equipped for blowpipe work and provided with lock drawers for each student. The room is large and well lighted, and is supplied with electricity, gas, running water, and cases for maps, minerals, rocks, and reagents. Other equipment for geological and mineralogical work consists of several hundred topographic maps and geologic folios, several thousand minerals and rocks for both demonstration and working collections, crystal models, polarizing microscope, rock slides, a lantern with numerous slides, and a collection of fossils arranged in order of the geologic periods. This collection has been augmented materially by the gift of fossils from Montana by Mr. Walter M. Small and by the gift and exchange of fossils by others.

A large room in the basement is used for the preparation and storage of minerals, rocks, and fossils.

The geological library consisting of several hundred volumes of government, state, and other publications is in the department library on the first floor of Alden Hall.

The Psychological Laboratory occupies four rooms on the third floor of Ruter Hall, and several additional rooms are at the disposal of students for experimental work. It is equipped with tables and the apparatus required for elementary experiments. New apparatus will be added as occasion arises.

The Natural History Collections are placed in the museum on the first floor of Ruter Hall and in Alden Hall. The geological and mineralogical collections are especially noteworthy and contain many valuable specimens, including several type forms. The more than eight thousand mineral specimens form an excellent collection and serve as a splendid basis for the course in mineralogy. The geological collections include the Smithsonian set of rocks and rock-forming minerals, besides numerous other specimens; while the paleontological collection includes the Ward casts and several original fossil forms. A collection of fossils, both local and from the glacial drift, has been presented to the college by Mr. William Millward.

The biological collections are also important. The herbarium has been greatly increased so that it includes most of the local flora, which is rich and varied and furnishes an abundance of material for the courses in Botany. The zoological collection consists of several thousand specimens. It includes an

excellent collection of shells, over two hundred mounted birds, several cases of economic insects, mounted skeletons, and numerous jars of prepared and injected specimens illustrating the various orders of animals.

The museum is open to the public every Saturday from ten-thirty until noon while the college is in session. At other times visitors are admitted on application to the curator.

THE LIBRARY

The library contains about 49,000 printed productions, of which 37,500 are bound volumes. The remainder is made up of unbound periodicals and classified pamphlets. The additions by gift and purchase during 1919-20 were more than 1,500 volumes. A large number of reference books of a general and technical nature have been recently added to the good collection in the reference room, where 2,000 volumes of books "reserved" for use in the various departments are shelved with the dictionaries, encyclopedias, and general reference works. A dictionary card catalogue and periodical and government document indexes make the general resources and the latest periodical information easily available. The departments of Astronomy, Biology, Chemistry, Geology, and Physics have their libraries in the buildings where the work is done. The library possesses many rare old books from the Winthrop, Thomas, and Bentley foundations, and a number of valuable old Bibles.

The following moneys have been given to create funds for the support of the library:

Andrew Carnegie Fund, $25,000, the income of which is to be used for general maintenance.

Lucy Prindle Foote Fund, $5,000, a gift of Mrs. Lucy P. Foote, of Batavia, Ill.

William Davis Memorial Fund, $5,000, a gift of Mr. Henry L. Davis, of Philadelphia, Pa., in memory of his father, Mr. William Davis.

The Reverend Lynn Olin Mead Fund, $500, a gift of Mrs. Martha S. Mead in memory of her late husband, the Reverend Lynn Olin Mead.

Hattie Mae Thickstun Fund, $1,000, a gift of Mrs. E. Lina Thickstun in memory of her daughter, Hattie Mae Thickstun.

The library was enriched in 1920 by the gift from Dr. William H. Crawford, the retiring president of the college, of nearly 800 volumes of books, 300 large photographs of art and architectural subjects, and several oil paintings. In addition, a number of fine paintings were loaned to the library by Dr. Crawford.

The library is housed in a modern building with large reading and study rooms. The classical and literary clubs have headquarters in the building, and rooms are set aside for advanced classes studying along special lines; the rules are such as will allow the widest use of the books with only such necessary restrictions as will secure the greatest good to the greatest number.

The library is a government depository and also receives the state publications. A book service is maintained with the Carnegie Library of Pittsburgh by which almost any book not available here may be secured quickly and at slight expense to the student. Exchange relations are maintained with several other libraries. The Meadville Theological School extends library privileges to this college, and the students have access to the Meadville Public Library.

The library is open during the college year as follows:

Monday, 10:30-12:30; during the remainder of the week it opens at 8:00. Afternoons, 1:30-5:30. Evenings, Monday to Friday, 7:00-9:00.

General Purpose

This institution is a college, not a university. It does not undertake to fit the student to enter a profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curricula are based. Under the various groups about three-fourths of the subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered, enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for a profession.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. A college training does not teach a man how to do business successfully, but it does prepare him to do business rapidly, and to attain large success, if he has the requisite talent.

Requirements for Admission

The requirements for admission are stated in terms of units. *A unit is defined as a course of study that has been pursued for a school year of at least thirty-six weeks, with four or five periods per week of not less than forty minutes each. However, not less than one hundred twenty periods of sixty minutes each or their equivalent shall be counted a unit. But it is understood that in the major subjects for entrance five periods a week will be required.*

No science subject may be credited for entrance unless accompanied by satisfactory evidence of laboratory or field work. Exceptions may be made in the case of physiology.

Subjects accepted for entrance:

	Minimum.	Maximum.
English	3	4
Mathematics	2½	4
Foreign Language	4	7
Latin		
Greek		
French		
German		

Not less than two units in any language will be counted, unless continued further in college.

History	1	4
Medieval and Modern	..	1
Ancient	..	1

English	½	1
United States	½	1
Civics	½	1
Drawing		
Free Hand	..	½
Mechanical	..	½
Science	1	4
Biology	½	1½
Chemistry	..	1
Physics	..	1
Physiography	½	1
Physiology	½	..
Geology	..	½
General Science	½	1

Not more than one unit of Biology may consist of General Zoology or Botany.

From the preceding list of units 15 must be offered for entrance to the freshman class. Of these, 11½ units are absolutely required and 3½ may be elected from any of the units in the foregoing list.

The 11½ required units are as follows:

English	3
*Mathematics	2½
Science	1
History	1
Foreign Language	4

For admission to A. B. Groups I and II, these 4 units will be in Latin; to Groups III, IV, and V, two

* Students may be admitted with 2 units of Mathematics, provided they offer 15 units all told; but they will be required to complete in college a half year of Mathematics in addition to the regular Science requirement.

units must be in Latin; to B. S. Groups I-IV, there is no restriction concerning Latin.

The various groups are described on pp. 51-56.

For conditional admission in the aforementioned Latin prerequisite see page 86.

DESCRIPTION OF UNIT REQUIREMENTS

ENGLISH.—The following is a definition of units one, two, three, and four, respectively, that may be offered as entrance credits in English:

(Unit one) Composition and Rhetoric.

(Units two and three) Selections from the list of required readings below.

(Unit four) A history of English or American literature, with additional readings from the English classics.

The study of English in school has two main objects, which should be considered of equal importance: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation, and the development of the habit of reading good literature with enjoyment.

The second object is sought by means of the reading and study of a number of books from which may be framed a progressive course in literature. The student should be trained in reading aloud and be encouraged to commit to memory notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

A few of these books should be read with special care, greater stress being laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions.

Examination—Candidates will have the option of taking either of two examinations; (1) a "Comprehensive" examination; (2) a "Restricted" examination, based in part on a prescribed list of books.

Each examination will be divided into two parts, one of which will be on grammar and composition, and the other on literature.

Restricted Examination—This examination will include:

A. Questions designed to test such knowledge and appreciation of literature as may be gained by an intelligent reading of the books given in list A.

B. A test on the books in list B. This will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of styles. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

When parts A and B of the restricted examination are taken at different times, each will include a test in grammar and composition.

Restricted List—

A. Books for Reading. Two books are to be selected from each of the five groups, except that for any book in Group I a book from any other may be substituted.

GROUP I. Classics in Translation. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI, XVII; the Aeneid. The Odyssey and the Aeneid should be read in English translations of recognized literary excellence.

GROUP II. Drama. Shakespeare's The Merchant of Venice, As You Like It, Julius Caesar.

GROUP III. Prose Fiction. Dickens' A Tale of Two Cities; George Eliot's Silas Marner; Scott's Quentin Durward; Hawthorne's The House of Seven Gables.

GROUP IV. Essays, Biography, etc. Addison and Steele's The Sir Roger de Coverley Papers; Irving's The Sketch Book (about 175 pages); Macaulay's Lord Clive; Parkman's The Oregon Trail.

GROUP V. Poetry. Tennyson's The Coming of Arthur, Gareth and Lynette, Lancelot and Elaine, The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa, Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, and Coleridge's The Ancient Mariner; Scott's The Lady of the Lake.

B. Books for Study. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I. Drama. Shakespeare's Macbeth, Hamlet.

GROUP II. Poetry. Milton's L'Allegro, Il Penseroso, and Comus; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley.

GROUP III. Oratory. Burke's Speech on Conciliation with America; Washington's Farewell Address, Webster's First Bunker Hill Oration, and Lincoln's Gettysburg Address.

GROUP IV. Essays. Carlyle's Essay on Burns, with a selection from Burns' Poems; Macaulay's Life of Johnson.

Comprehensive Examination—The purpose of this examination will be to enable the candidate to show that he has read, understood, and appreciated a sufficient amount of English literature. The paper will include some questions that cannot be answered except by candidates who are able to apply what they have learned to passages of literature which they have not read before. Suggestions for books to be read in preparation for this examination will be found in the list of recommended reading appended.

Comprehensive List—

GROUP I. Classics in Translation. The Old Testament,

comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission if desired, of Books, I, II, III, IV, V, XV, XVI, XVII; the Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI; the Aeneid. The Odyssey, Iliad and Aeneid should be read in English translations of recognized literary excellence.

GROUP II. Drama. Everyman; Shakespeare's Midsummer Night's Dream, Merchant of Venice, As You Like It, Twelfth Night, The Tempest, Romeo and Juliet, King John, Richard II, Richard III, Henry V, Coriolanus, Julius Caesar, Macbeth, Hamlet; Goldsmith's She Stoops to Conquer; Sheridan's The Rivals.

GROUP III. Prose Fiction. Malory's Morte d'Arthur (about 100 pages); Bunyan's Pilgrim's Progress, Part I; Swift's Gulliver's Travels (voyages to Lilliput and to Brobdingnag); Defoe's Robinson Crusae, Part I; Goldsmith's Vicar of Wakefield; Frances Burney's Evelina; Scott's novels, any one; Jane Austen's novels, any one; Maria Edgeworth's Castle Rackrent, or The Absentee; Dickens' novels, any one; Thackeray's novels, any one; George Eliot's novels, any one; Mrs. Gaskell's Cranford; Kingsley's Westward Ho! or Hereward the Wake; Reade's The Cloister and the Hearth, or Griffith Gaunt; Blackmore's Lorna Doone; Lytton's The Last Days of Pompeii; Hughes' Tom Brown's Schooldays; Stevenson's Treasure Island, or Kidnapped, or Master of Ballantrae, or Dr. Jekyll and Mr. Hyde; Cooper's novels, any one; Poe, selected tales; Hawthorne's The House of the Seven Gables, or Twice Told Tales, or Mosses from an Old Manse; short stories by various standard writers, as Bret Harte, Aldrich, Page, Hale, and Barrie; Kipling's Kim, or Captains Courageous, or Jungle Books; Howells' The Rise of Silas Lapham, or A Boy's Town; Wister's The Virginian; Cable's Old Creole Days.

GROUP IV. Essays, Biography, etc. Addison and Steele's The Sir Roger de Coverley Papers, or selections from the Tatler and Spectator (about 200 pages); Boswell, selections from the Life of Johnson (about 200 pages); Franklin's Autobiography; Irving's Life of Goldsmith; Southey's Life of Nelson;

Lamb, selections from the Essays of Elia (about 100 pages); Lockhart, selections from the Life of Scott (about 200 pages); Thackeray's Lectures on Swift, Addison, and Steele in the English Humorists; Macaulay, any one of the following essays: Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederick the Great, Madame d'Arblay, Life of Johnson, Two Speeches on Copyright, History of England, Chapter III; Trevelyan, selections from the Life of Macaulay (about 200 pages); Ruskin's Sesame and Lilies, or selections (about 150 pages); Dana's Two Years Before the Mast; Lincoln, selections, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman's The Oregon Trail; Thoreau's Walden; Lowell's Selected Essays (about 150 pages); Holmes' The Autocrat of the Breakfast Table; Stevenson's An Inland Voyage and Travels with a Donkey; Huxley's Autobiography and selections from Lay Sermons, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; Washington's Farewell Address; Burke's Speech on Conciliation with America; Webster's First Bunker Hill Oration; Emerson's Manners, Self-Reliance; Burrough's Selected Essays; Warner's In the Wilderness; Curtis' Prue and I, Public Duty of Educated Men; Hudson's Idle Days in Patagonia; Clemens' Life on the Mississippi; Riis's The Making of an American; Bryce's The Hindrances to Good Citizenship; a collection of essays by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers; a collection of letters by various standard writers.

GROUP V. Poetry. Palgrave's Golden Treasury (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley; Milton's L'Allegro, Il Penseroso, Comus, Lycidas; Goldsmith's The Traveler, and the Deserted Village; Pope's The Rape of the Lock; a collection of English and Scottish ballads, as, for example, some Robin Hood Ballads, The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens, and a selection from later ballads; Coleridge's The Ancient Mariner, Christabel, and Kubla Khan;

Byron's Childe Harold, Canto III or IV, and The Prisoner of Chillon; Scott's The Lady of the Lake, or Marmion; Macaulay's The Lays of Ancient Rome, the Battle of Naseby, The Armada, Ivry; Tennyson's The Princess, or Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervè Riel, Pheidippides, My Last Duchess, Up at a Villa, Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, The Forsaken Merman, and Balder Dead; selection from American poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

MATHEMATICS.—Elementary Algebra. (One unit or one and one-half units.) The work in this subject should include the following: fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

A maximum of one and one-half units may be given when the time spent in preparing to meet this requirement be at least a year and a half. It is suggested that the work of the last half-year should be done late in the preparatory school course to insure a distinct and ready articulation with the required work of the freshman year in college. It is desirable that the student should come to his college work with well formed habits of neatness and accuracy, and that he have a ready knowledge of so much mathematics as he may have studied.

Plane Geometry. (One unit.) The general properties of rectilinear figures, similar polygons, and areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

Solid Geometry. (One-half unit.) The relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

Advanced Algebra. (One-half unit.) A somewhat more extended treatment in review of the important topics of elementary algebra; such as fractional and negative exponents, radicals, factoring, the theory of quadratic equations (including maxima and minima, simultaneous quadratic equations, ratio, proportion, the progressions, and the binomial theorem for positive integral exponents). In addition to these, the following topics should be included: permutations and combinations, undetermined coefficients, partial fractions, logarithms, theory of equations, including Horner's method, and the solution of numerical equations of higher degree.

Plane Trigonometry. (One-half unit.) The definitions and relations of the six trigonometric functions as ratios, proofs of formulas, especially those for the sine, cosine and tangent of the sum or difference of two angles, the relation between functions of an angle and those of double angles and half angles, inverse functions, and the solutions of right and oblique triangles with applications.

LATIN.—The following requirements, as proposed by the Commission on College Entrance Requirements in Latin, have been adopted by the college:

I. AMOUNT AND RANGE OF THE READING REQUIRED.

1. The Latin reading required of candidates for admission to college, without regard to the prescription of particular authors and works, shall not be less in amount than Caesar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, Aeneid, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Caesar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and De Senectute) and Sallust (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Aeneid) and Ovid (Metamorphoses, Fasti, and Tristia).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS.

1. **Translation at Sight.** Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be

suited to the preparation secured by the reading indicated above.

2. **Prescribed Readings.** Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias; and Vergil, Aeneid, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. **Grammar and Composition.** The examination in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and ordinary syntax and vocabulary of the prose authors read in the school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

The credits given are as follows: elementary Latin book, such as Collar and Daniell or Bennett, including the reading of at least fifteen pages of easy connected prose, such as Viri Romae, one unit; Caesar with composition, one unit; Cicero with composition, one unit; Vergil, one unit.

GREEK.—(One unit.) First Greek book and at least six chapters of Book I of Xenophon's Anabasis.

(One unit.) Xenophon's Anabasis through Book IV. Xenophon's Anabasis, Books V, VI, and VII, or Xenophon's Hellenika, Books I and II, or twelve hundred lines of Homer. Prose composition based on the texts read.

(One unit.) Homer's Iliad or Odyssey, about three thousand lines. Thorough knowledge of poetic forms and prosody. About thirty pages of Attic prose with composition based thereon.

Throughout the work in Greek, emphasis should be laid on accurate knowledge of forms and the ordinary rules of syntax, on the ability to read Greek aloud correctly and expressively,

and on the ability to write rapidly and correctly in Greek simple English sentences based on the texts read.

Students expecting to enter Greek I in college should offer at least two units of entrance Greek. Students without Greek for entrance may begin the subject in Greek A and in one year be prepared to enter Greek I.

GERMAN.—(One unit.) The first year's work should comprise: careful drill in pronunciation, dictation, memorizing of easy colloquial sentences, drill in the rudiments of grammar, i. e., the inflection of nouns, adjectives, pronouns, weak verbs, and the more usual strong verbs; the use of prepositions; the simplest rules of syntax and word order; simple exercises in conversation; and the reading of from seventy to one hundred pages of a graduated text from a reader or from editions of easy texts.

(One unit.) The second year's work should comprise: the reading of one hundred fifty to two hundred pages of literature in the form of easy stories and plays; a further study of syntax; conversation based on the text read; practice in the translation into German of easy variations upon the matter read, and also in off-hand reproduction, sometimes orally and sometimes in writing, of the substance of selected passages.

(One unit.) The work of the third year includes, in addition to the courses above, the reading of about four hundred pages of moderately difficult prose or poetry, with constant practice in giving, sometimes orally, sometimes in writing, abstracts, paraphrases, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of the article, and the cases, the uses of the subjunctive and the infinitive, complex sentence structure, and the uses of modal auxiliaries and participial constructions.

(One unit.) The fourth year of the study should be devoted to such works as Goethe's Iphigenie, Tasso, Hermann und Dorothea, Schiller's Wallenstein, standard prose of the grade represented by Freytag or Keller, some consideration of the chief lyric poets, prose composition, and some practice in theme writing.

FRENCH.—(One unit.) First year French should comprise the following: (1) careful drill in pronunciation, which should be re-enforced by dictation and conversation in the class room; (2) study of grammar, including the more usual irregular verbs, such as the material found in Part I of Fraser and Squair's French Grammar; (3) regular practice in putting simple idiomatic sentences into French; (4) reading of about two hundred duodecimo pages of easy standard French, such as is to be found in the more popular French Readers, Malot's Sans Famille, Bruno's Tour de la France, the stories of Erckmann-Chatrian, etc.

(One unit.) Second year French should include: (1) continued work in dictation; (2) memorizing of short poems; (3) further practice of turning English into idiomatic French, (4) more detailed study of grammar, such as is contained in Fraser and Squair, Part II; (5) reading of some three hundred pages of standard French of gradually increasing difficulty, such as the stories and plays of About, Daudet, Labiche, Mérimée, Sand, Scribe, etc.

(One unit.) Third year French should comprise the reading of some five hundred pages of more difficult French, including some masterpieces of French drama. Moreover, the student should be able to reproduce and paraphrase into idiomatic French parts of the works read. Texts should be selected from the works of Balzac, Beaumarchais, Corneille, Hugo, Marivaux, Molière, Musset, Racine, Vigny, Voltaire, etc.

ANCIENT HISTORY.—(One unit.) To the fall of the Roman Empire. Texts—Botsford, West, Myers.

MEDIEVAL AND MODERN.—(One unit.) Texts—Myers, Robinson.

ENGLISH HISTORY.—(One-half or one unit.) Texts—Cheyney, Larned.

AMERICAN HISTORY.—(One-half or one unit.) Texts—Channing, Fiske, McMaster.

CIVICS.—(One-half or one unit.) Texts—Fiske, Hart.

FREE HAND DRAWING.—(One-half unit.) The candidate must possess the ability to sketch, both in outline and with shading, simple objects, such as a house, a small piece of ma-

chinery, a simple landscape, a group of geometrical figures, or an architectural ornament.

Certificates covering the above work, together with at least twenty specimen drawings, may be accepted.

MECHANICAL DRAWING.—(One-half unit.) The candidate must be able to make projections in plan and elevation of geometrical figures, and to prepare working drawings of simple architectural and mechanical subjects.

Certificates covering this work, together with at least twenty plates, illustrating the elements of descriptive geometry or of simple machine parts, may be accepted.

BIOLOGY.—Courses in zoology, botany, physiology and hygiene will also be accepted under this head provided they meet the requirements here given. Satisfactory outlines of courses are given in the syllabus published by the New York State Educational Department.

a. (One unit.) A course in general biology extending throughout a year which shows the fundamental relationship between the animal and plant kingdoms and shows man's place in nature. A part of this course may deal with human physiology. The course must be accompanied with laboratory work, and the student, if required to do so, must be prepared to submit a laboratory note-book properly certified.

b. (One-half to one unit.) Courses in general zoology or general botany of at least one-half year in length. It is recommended that these be courses which deal with habits and ecological relationships as well as structure. Forms of animals or plants of local or of economic importance should be used as type forms as far as possible. Courses in botany dealing solely with birds or insects will not be accepted. Laboratory work will be required in all cases and the student must be prepared to submit a properly certified note-book.

c. (One-half unit.) Physiology and Hygiene. This must be a one-half year course, and it is recommended that laboratory work be done with the course.

GEOLOGY.—(One-half unit.) The materials of the earth, the work of the atmosphere, ground-water, running water, snow and ice, the oceans and lakes, vulcanism and diastro-

phism; rock structures; the history of the geological periods from the Archæozoic to the present. Laboratory and field work are required, for which a note-book is to be submitted.

PHYSIOGRAPHY.—(One-half or one unit.) The origin and significance of the great relief features of the earth, and the topographic forms of the land; the earth as a planet; the atmosphere; the climate; weather predictions. Appropriate field and laboratory work must accompany the study of the text. Suitable text books are Salisbury's Briefer Course in Physiography, or Tarr's Physical Geography.

CHEMISTRY.—(One unit.) The candidate's preparation in chemistry should include: (a) The study of at least one standard text-book on general chemistry, to the end that the pupil may obtain a comprehensive view of the more important facts of elementary chemistry. (b) Individual laboratory note-books, certified by the candidate's instructor, must be presented.

PHYSICS.—(One unit.) The amount and extent of the class work required for entrance in physics may be indicated by such texts as Millikan and Gale's First Course, Hoadley's Elements ,or Carhart and Chute's High School Physics. In laboratory the work should include at least thirty quantitative experiments supplementing the class work, performed by the student, and recorded in a carefully prepared note-book.

SPECIAL STUDENTS

Persons desiring to pursue studies in the college are, as a rule, required to be prepared to enter the freshman class as candidates for one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

ENTRANCE EXAMINATIONS

Examinations for admission are held on Monday and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the first term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in all subjects.

ADMISSION BY CERTIFICATE

In place of examinations in studies required for admission to college, certificates will be accepted from approved first class high schools having a regular four years' course, in case of students regularly graduating in such a course. Certificates will also be accepted in case of graduates of a three years' high school course, provided they pass entrance examinations in not less than three units additional to their certificate.

Certificates will not be accepted in the cases of students who are not graduates of the school from which the certificates are presented. *Students entering by certificate are considered as on trial until the completion of the mid-year examination, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.*

In all cases an examination in English is required, adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to have their schools placed on the approved list are invited to address the Registrar of the college.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should bring with him all laboratory note-books, exercise books, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismissal will be required from those who have been matriculated at other institutions.

Requirements for Graduation to the Degree of Bachelor of Arts

FRESHMAN YEAR

	First Term.	Second Term.
English I	3	3
English Bible I	1	1
*Mathematics or Science	4	4

One course from each of two of the following departments: Latin, Greek, French, History.

The above foreign language courses will count as part of the student's Group Electives as detailed on pp. 52, 53.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For Group I he should choose Latin and Greek.

For Group II he should choose Latin or Greek, and French.

For Group III he should choose French and one other.

For Group IV he may choose any two of the subjects.

For Group V he should choose a language course and one in the history department.

Not less than fifteen and not more than sixteen hours are to be taken weekly.

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*Candidates for the degree of Bachelor of Arts are required to elect fourteen term hours from the following courses: Astronomy I, Biology I, Chemistry I, Geology I, Mathematics I, Physics I, so that two departments are represented. In case Geology I is elected, high school or college Chemistry must also have been completed. In case Astronomy is elected, Mathematics I or Physics I must also have been completed.

SOPHOMORE YEAR

	First Term.	Second Term.
Mathematics or Science	4 or 3	4 or 3
History or Political Science	3	3

(unless taken in the freshman year.)

Group Electives [see below] to make not less than fifteen and not more than seventeen hours weekly.

JUNIOR YEAR

	First Term.	Second Term.
Philosophy II, V	3	3

This subject may be taken in the sophomore year if the student is to do his major work in philosophy.

Group Electives and Free Electives, to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR

A thesis. See page 103.

Group Electives and Free Electives chosen from the list on pages 104-108 to make a total for the course of not less than one hundred twenty term hours.

GROUP ELECTIVES

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of A. B. Groups I, II, III, IV, V, in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 117.

A. B. Group I

1. In one department, Greek or Latin.....20 hrs.
2. In a second department, Latin or Greek.....14 hrs.
3. In a third department, English, History, Philosophy, or French .....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, French, or Spanish..... 6 hrs.

A. B. Group II

1. In one department, Latin or Greek.....20 hrs.
2. In a second department, French.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, Greek, or French.....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, French, or Spanish..... 6 hrs.

A. B. Group III

1. In one department, French.....20 hrs.
2. In a second department, English, History, Philosophy, Latin, or Greek.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, or Greek .....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, or Spanish..... 6 hrs.

Students who present for admission less than two units in a modern language must, if this Group is chosen, take not less than eight hours additional to the above requirements, in the language chosen for the major subject.

A. B. Group IV

1. In one department, English or Philosophy.....20 hrs.
2. In a second department, English, History, or Philosophy .....14 hrs.
3. In a third department, Latin, Greek, or French...14 hrs.
4. In a fourth department, Latin, Greek, French, or Spanish ..... 6 hrs.

A. B. Group V

1. In one department, History or Economics.....20 hrs.
2. In a second department, Economics, English, History, or Philosophy.....14 hrs.
3. In a third department, Latin, Greek, or French...14 hrs.
4. In a fourth department, Latin, Greek, French, or Spanish ..... 6 hrs.

Requirements for Graduation to the Degree of Bachelor of Science

FRESHMAN YEAR

	First Term.	Second Term.
English I	3	3
English Bible I	1	1
Foreign Language: French, Latin, or Greek	4	4
Mathematics I	4	4
Science—Biology, Chemistry, Physics, or Surveying	4	4

This Science course will count as part of the student's Group Electives as detailed on p. 56.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For B. S. Group I, he should choose Biology.

For B. S. Group II, he should choose Chemistry.

For B. S. Group III, he should choose Physics.

For B. S. Group IV, he should choose Mathematics or Surveying.

SOPHOMORE YEAR

	First Term.	Second Term.
*History or Political Science	3	3
Foreign Language, continuing the language taken in the freshman year	4 or 3	4 or 3

Group Electives [see page 56] to make not less than fifteen and not more than seventeen hours weekly.

*This work may be postponed to the junior year in case it is necessary for the student to continue a subject begun in the freshman year.

JUNIOR YEAR

	First Term.	Second Term.
Philosophy II, V	3	3
Second Foreign Language	4 or 3	4 or 3

Spanish may count for the second foreign language, but not for the first.

Group Electives and Free Electives to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR

A thesis. See page 103.

Group Electives and Free Electives chosen from the list on pages 104-108 to make a total for the course of not less than one hundred twenty term hours.

GROUP ELECTIVES

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of B. S. Groups I, II, III, or IV, in which his work is to be done.

The head of the department in which the major work is done becomes the student's advisor. See page 117.

B. S. Group I

1. Biology ..... 20 hrs.
2. Chemistry or Physics ..... 14 hrs.
3. Physics or Chemistry or Mathematics..... 8 hrs.

B. S. Group II

1. Chemistry ..... 20 hrs.
2. Biology or Mathematics or Physics or Surveying.. 14 hrs.
3. Biology or Mathematics or Physics or Surveying.. 8 hrs.

B. S. Group III

1. Physics ..... 20 hrs.
2. Chemistry or Mathematics or Surveying..... 14 hrs.
3. Mathematics or Chemistry or Biology..... 8 hrs.

B. S. Group IV

1. Mathematics or Surveying ..... 20 hrs.
2. Physics or Mathematics or Surveying..... 14 hrs.
3. Biology or Chemistry or Physics or Mathematics.. 8 hrs.

Courses of Instruction

BY DEPARTMENTS

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as especially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ART

None of the courses in Art are technical. They are directed to the formation of correct judgment regarding art objects and an acquaintance with the more notable monuments of the art of civilized people as an index to their character and ideals. The instruction is mainly by lecture but much reading is required as well as close study of art objects, original or in reproduction.

COURSE I—History and Appreciation of Art. An outline of the development of architecture, sculpture, and painting. Attention is given to the historical side of the subject but most importance is attached to discovering the fundamental qualities of art as a basis of the accepted canons of good taste and to developing correct and intelligent individual judgment of works of art.

Throughout the year, two hours.

COLLATERAL COURSES—Greek Architecture. See Greek VIII.

Greek Sculpture. See Greek IX.

Roman Topography and Architecture. See Latin V.

ASTRONOMY

The courses in Astronomy aim to give the student a comprehensive view of the science and to acquaint him with the theories of the development of the solar system and the structure of the universe. In all courses the student is required to study the members of the solar system, star clusters, nebulae, and other celestial objects with the aid of the instruments in the Newton Observatory.

COURSE I—General Astronomy. A study of the members of the solar system, the laws that govern their motions, and other phenomena. Also a study of the stars and nebulæ, with a discussion of the laws and theories of their relations. The important applications of astronomy to time determination, navigation, etc., find their places in this course. Finally the theories of cosmogony are outlined and the evidence that the heavenly bodies give in support of these theories is discussed. The student will be required to make systematic observations of the heavens in connection with the course. No prerequisites unless elected to satisfy required Science in A. B. Course. See page 51.

Throughout the year, three hours.

Course II—Field Astronomy. Determination of time, latitude, and longitude, with the transit, sextant, and chronometer. Open to those who have completed Trigonometry and Astronomy I.

Second term, two hours.

Given in 1922-23.

COURSE III—History of Astronomy. A course tracing the progress of the science from early times, including the work of the celebrated pioneers, down to the present day. Open to students who have completed Course I.

Second term, two hours.

Given in 1921-22.

BIOLOGY

The courses in this department are designed to acquaint the student with the great world of life in its different forms, functions, and uses. Considerable attention is given to details in observation and to a comparative study of forms, thereby training the student to observe accurately and to think clearly and logically. The economic aspects of the subject are considered with the view of presenting some of the great problems in the applied biological sciences.

A Biological Club exists for advanced students, in which reviews of current biological literature or of research work of the student are presented.

COURSE I—General Biology. This course aims to give the fundamentals of the science considering life in its broadest aspects; various types are studied with the view of illustrating the various forms and functions of life and of showing the general principles of organic evolution. The first term is zoological in character, the second term botanical. The field work consists in the collection and identification of some group of animals or plants; in the laboratory a series of type forms is studied. Lectures and recitations, three hours a week; laboratory and field work, two hours a week.

Throughout the year, four hours.

COURSE II—Principles of Biology. A course which deals with evolution, natural selection, mutation, genetics, including Mendel's Law, inheritance of acquired characters, eugenics, and the physical basis of life and heredity as found in the cell, together with the general facts and theories of development. Lectures and assigned readings. Open to all college students above freshman rank.

Throughout the year, one hour.

COURSE III—Advanced Botany. The structure and functions of the various organs of the seed plants are considered

the first term, including the study of prepared material and experimental work on living plants in photosynthesis, transpiration, respiration, growth, and reactions to various stimuli. The second term's work is largely systematic and aims to acquaint the student with the local flora, including the algæ, fungi, mosses, ferns, and seed plants. Field work forms an important feature of the course. Lectures and recitations, two hours a week; laboratory and field work, four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE IV—Advanced Zoology. The external and internal morphology of a series of animals illustrating the various classes are studied. The first term is devoted to the invertebrates, the second term to the vertebrates, including the dissection of various forms; the work of the first term is extensive, that of the second term intensive and largely comparative. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE V—Economic Botany. This course is designed to give the student a knowledge of the history, distribution, methods of culture, and the uses of the various economic plants, such as those furnishing foods, fibres, flowers, drugs, timbers, etc. The cause and treatment of the diseases of the economic plants form an important feature of the work. Lectures and recitations, two hours a week; laboratory work, two hours a week. Open to students who have completed Course I, or its equivalent.

First term, three hours.

COURSE VI—Economic Zoology. A course corresponding to Course V, but dealing with economic animals. The major part of the time is spent in the study of insects and birds. Considerable attention is given to the identification and to the life histories of those insects which cause damage to cultivated crops. Lectures and recitations, two hours a week; field

and laboratory work, two hours a week. Open to students who have completed Course I, or its equivalent.

Second term, three hours.

COURSE VII—Bacteriology. The aim of this course is to acquaint the student with the general distribution and activities of the micro-organisms. The laboratory work is designed to give the student training in bacteriological technique by growing some type forms and studying their morphology and physiology. A quantitative and a qualitative analysis for micro-organisms is made of air, soil, and various food products, including water, milk, butter, etc.; the disease-producing micro-organisms as well as those which cause fermentation and decay are studied. Lectures and recitations, one hour a week; laboratory work, four hours a week. Open to students who have completed Course I.

Throughout the year, three hours.

BIOLOGY VIII—Human Anatomy and Physiology. A course which treats of the various structures and functions of the human body, including digestion, assimilation, excretion, irritability, etc. Lectures and recitations, two hours a week; laboratory work, two hours a week. Open to students who have completed Course I.

First term, three hours.

COURSE IX—Cytology and Histology. A course which treats of the structure of the cell and its various modifications into tissues; the laboratory work is designed to give the student training in technique and consists in the fixing, imbedding, sectioning, staining and mounting of various tissues, mostly from animals. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course I, and preferably Course IV.

First term, four hours.

COURSE X—Vertebrate Embryology. This course includes the study of the development of the chick and of a mammal from the time of fertilization of the egg until fully formed. Preparation of microscopic slides and the study of the vari-

ous stages constitute the laboratory work. This course and Courses IV and IX are recommended for those who anticipate the study of medicine. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course IX.

Second term, four hours.

BIOLOGY XI—Sanitation and Hygiene. This course deals with those things which affect both public and personal health; foods, including their relative values and their sanitary importance, the causes and prevention of disease, and the general care of the body are topics considered. Lectures and assigned readings, one hour a week. Open to all college students.

Throughout the year, one hour.

COURSE XII—Special Biology. This course is designed for students who are desirous of pursuing some line of biological work not included in the above courses. Open to students only by permission of the head of the department.

Hours to be arranged.

CHEMISTRY

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. The non-metals, metalloids and metals, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives special attention, as also do the elementary principles of chemical

dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text-books: Lee's Text-book of Experimental Chemistry and Mellor's Modern Inorganic Chemistry. Lectures and recitations, two or three hours a week. Laboratory work, two to four hours a week.

Throughout the year, four hours.

COURSE I-A—Organic Chemistry. This course is offered in order to meet the needs of those students who contemplate the study of medicine, sanitary science or the household sciences. It is recommended to the general student also, as its survey of the more important classes of organic compounds in the aliphatic and aromatic series enables the student to round out his conception of the field of chemistry as well as to prepare him to undertake more advanced work in chemistry or other divisions of study which involve the applications of this phase of chemistry.

The laboratory work (one afternoon per week) consists of a study of the more important reactions and syntheses of the different classes of organic compounds discussed in the lecture room. Prerequisite, Chemistry I or its equivalent.

Throughout the year, three hours.

COURSE II—Analytical Chemistry. Qualitative Analysis. Bases and Acids. The student is required to work through a system of preliminary analytical reactions. The more intimate knowledge of the elements and their compounds thus gained enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc., receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the manual. Text-book: Lee's Qualitative Chemical Analysis. The work is arranged so as to include a brief course in Spectrum Analysis.

Laboratory and lectures, six hours a week throughout the year. Open to those who have completed Course I, or its equivalent.

Throughout the year, three hours.

COURSE III—Analytical Chemistry. Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric, physico-chemical, and volumetric processes as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights and all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirement.

Electro-Chemical Analysis. A brief course in electrolytic methods of analysis is included in this year's work.

Laboratory work, eight hours a week. All laboratory work is supplemented by lectures. Open to those who have completed Course II, or its equivalent.

Throughout the year, four hours.

COURSE IV—Gas and Fuel Analysis. This course is offered because of the analyst's frequent need of this kind of training. It deals with the laws of gases, and with the various methods of determining the composition and calorific value of various gaseous, liquid, and solid fuels. Lectures and laboratory work, four hours a week.

Throughout the year, two hours.

COURSE V—Theoretical Organic Chemistry. The work of this course begins with an historical sketch of the development of organic chemistry, and a consideration of such topics as the nature of carbon, homology, isomerism, stero-isomerism, types of formulæ, nomenclature, and classification of organic compounds. The compounds of the aliphatic and aromatic series are then studied in detail. Those compounds and processes which are of technical or theoretical importance receive special attention. This course is recommended to those students who contemplate the study of medicine or other phases of chemico-biological work, or chemical engineering.

Course VI should be taken in conjunction with this course. Open to students who have completed Course II.

Throughout the year, three hours.

COURSE VI—Organic Preparations, Reactions, and Analysis. This is a laboratory course involving methods for the preparation, the purification, and the analysis of a number of typical organic compounds. The physical and reaction properties, and the relationships of these compounds are then studied in detail. In the prosecution of this work the student becomes familiar with the apparatus and operations involved in the work of practical organic chemistry, such as crystallization, determination of melting and boiling points, fractional distillation, steam distillation, extraction, drying, determination of molecular weights; and with the general methods of preparation, such as etherification, oxidation and reduction, saponification, nitration, sulphonation, diazotization, etc. The work in organic analysis includes in addition to the usual qualitative tests, quantitative determinations of carbon, hydrogen, nitrogen, and halogens. Laboratory work, six hours a week. Open to those who have completed or are taking Course V.

Throughout the year, three hours.

COURSE VII—Sanitary Analysis and Physiological Chemistry. The purpose of this course is to familiarize the student with the standard methods of making physical, chemical, and bacteriological examinations of air, water, milk, sewage, food, etc. Although attention will be given to the study of the distribution, cultivation, identification of various pathogenic microörganisms, stress will be placed upon the chemical changes effected by these organisms. This course is recommended to those who contemplate pursuing medicine or sanitary work as a profession. Opportunity is provided for practical as well as research work along this line. For example, blood, urine, and sputum are studied, with a view of emphasizing their diagnostic value; methods for testing efficiency of disinfectants are considered; etc.

Throughout the year, three hours.

COURSE VIII—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced stu-

dents to study methods of analysis along special lines. It is designed to familiarize the individual with many of the analytical methods in use in commercial laboratories. Three lines of work are open to the student:

(a) **Metallurgical Analysis,** which includes the analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke, and coal.

(b) **Food Analysis,** which includes the analysis of those substances essentially organic in nature, as foods, and the detection of adulterants.

(c) **Agricultural Chemistry,** which includes analysis of soils, fertilizers, dairy products, etc.

Special courses in **Biological Chemistry** and **Toxicological Analysis** are offered to students preparing for the profession of chemistry or the study of medicine.

Hours elective.

COURSE IX—Physical Chemistry. This course aims to give the student a general knowledge of the principles of the subject by means of lectures, reading, and laboratory work. This latter work will include the determination of "the heat of neutralization," "heat of solution," "speed of reaction," solubilities, molecular weights, conductivities, refractive indices, and an experimental study of various other physical and chemical constants. Six hours a week.

Throughout the year, three hours.

COURSE X—History of Science and Development of Chemical Theory. The first part of this course is devoted to a general survey of the historical development of science, after which an effort is made to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparation of theses. Open to students who have completed Course I.

Throughout the year, two hours.

COURSE XI—Industrial Chemistry. The work of this course has been outlined to meet the wants of those students

who are particularly interested in the application of chemical processes to the commercial arts.

Throughout the year, three hours.

ECONOMICS AND BUSINESS ADMINISTRATION

The courses in this department are open to those who have completed a year's work in history or political science. Courses I and II are prerequisite to all other courses in the department except Course VIII, which is open to all juniors and seniors. The courses in this department have two objects in view: first, to add to the knowledge of the students as to business operations and commercial methods; second, to train men to think clearly about economic and business problems. Throughout the work in economics its close relationship to history and political science is emphasized and the work in these subjects is closely coordinated. Major students in the department will find it necessary to take Courses I and II during their sophomore year.

COURSE I—Principles of Economics. A study of the fundamental laws and concepts of Economics, covering the subjects of production, consumption, exchange, and distribution.

First term, three hours.

COURSE II—Modern Economic Problems. A brief introduction is made, in the light of the general principles, to a number of present day economic problems: tariff, taxation, foreign exchange, trusts, social insurance, etc.

Second term, three hours.

COURSE III—Corporation Finance. This course aims to develop the essential features of a sound financial structure. Among the subjects treated are: the evolution of the corpora-

tion, nature of corporate charters, methods of promoting and financing, combinations, insolvency, and reorganization.

First term, two hours.

Given in 1922-23.

COURSE IV—Principles of Accounting. A study of the theory and technique of account construction. The principles and procedure of modern accounting as exemplified in the financial statements of business concerns. The problems involved in the construction and interpretation of income and balance sheets, the determination of profits and adequate statements of the affairs of a going concern.

Second term, two hours.

Given in 1922-23.

COURSE V—Money and Banking. A discussion of the theory, principles, and practical aspects of banking and currency. Emphasis is placed upon the relation of money and credit, functions of banks and bank credit, foreign exchange and gold movements, the operation of the Federal Reserve System.

First term, two hours.

Given in 1921-22.

COURSE VI—Commerce and Marketing. A study of the development of both foreign and domestic commerce, with emphasis upon the organization, methods, and policies employed in the marketing of both raw materials and manufactured products. Attention will be given to the problems involved in the relations of manufacturers, middlemen, and consumers.

Second term, two hours.

Given in 1921-22.

COURSE VII—Business Organization and Management. An introduction to the general principles of internal organization and management of business enterprises. Such topics as the following are considered: organization of the managerial force, selecting and training employees, methods of remuneration and promotion, purchasing, selling, advertising, welfare work. Special emphasis is placed on the relation of employer and employee.

Throughout the year, two hours.

Given in 1922-23.

COURSE VIII—Sociology. A study of social origins and social evolution, with particular reference to social laws and factors affecting social progress. Certain typical modern social problems, such as poverty and immigration, will be considered with special reference to systems of improvement.

Throughout the year, two hours.

Given in 1921-22.

EDUCATION

The aim of the department is to give elementary instruction in pedagogy, with special reference to secondary education. The courses offered, together with Philosophy I, II, III, IV, and V, give the student ample opportunity to meet in full the requirements of the educational code of Pennsylvania for the Provisional Certificate.

COURSE I—History of Education. The development of educational practice and theory in the ancient, medieval, and modern world. Special emphasis upon Greek education, the advance in education inaugurated by the Renaissance, the chief modern educational reformers, and the modern movements in education. Lectures, text-book, collateral readings, theses. Open to juniors and seniors.

First term, three hours.

COURSE II—Principles of Secondary Education. A brief survey of the development of secondary education in Europe and America; the traits of early and middle adolescence, with special reference to the educational needs of the student; the organization, methods, curriculum, and problems of the high school; the place and function of secondary schools in the school system and in American life; the reorganization of secondary education. Lectures, text-book, supplementary readings. Open to those who have taken Philosophy II.

Second term, three hours.

Given in 1922-23.

COURSE III—Educational Psychology. The development of

the mind in childhood and adolescence. The facts and principles of the learning process, with reference to instinct, habit, attention, interest, memory, formal discipline, etc. The psychology of writing and reading. Lectures, text-books, laboratory exercises. There will be two lectures and one laboratory period of two hours each week. Open to those who have taken Philosophy II.

Second term, three hours.

Given in 1921-22.

ENGLISH BIBLE

The courses in this department are intended to open to the student not only the literary masterpieces of the Bible and their message for our day, but all its varied types of literature; to familiarize him not only with the general reconstruction of Hebrew history reached by critical study, but especially with the background and the beginning of Christianity; and to acquaint him not only with the nature of the Bible, and the story of how it has reached us, but with methods and principles by which further work may be carried on. View points are constantly sought which are based upon open inquiry and as much freed from bias and dogmatism as possible.

COURSE I—A General Introduction to the English Bible. Those passages will be selected for study which best serve to introduce the student to the nature of the Bible, to methods of approach to its message, and to the general results in biblical history reached by critical study. Use will be made of historical passages chiefly, but a brief survey of other types of literature will be made. A general resume of the story of the making of the Bible will be given. Lectures and use of text-book.

Throughout the year, one hour.

COURSE II—New Testament History and Literature. The first semester will be devoted to the study of the life of Jesus,

and the second to that of the Apostolic Age. Emphasis will be placed upon the political, moral, and religious background of the New Testament and considerable reference will be made to its literature. Much attention will be given to the personalities of Jesus and Paul. Text book, collateral readings, and lectures.

Throughout the year, three hours.

COURSE III—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Palestine from the earliest times down to the IVth century B. C. is studied in connection with the life and development of the Hebrew people. The international connections of the Hebrews are traced, the marked eras of the nation's growth are sharply defined from the Conquest to the Exile, and the later origin of Judaism explained. The principles governing the proper interpretation of all Oriental writings are defined and applied to the early Bible narratives. The relation of the Bible to science is here examined. The literature of the Old Testament, taken up chronologically, is compared with contemporaneous writings. Particular attention is given to the origin, growth, and character of the legal literature and to the theology of the prophets.

Throughout the year, two hours.

Given in 1922-23.

COURSE IV—Social Institutions and Ideals of the Bible. A study of Hebrew domestic, economic, political, and religious institutions as they develop from primitive times to the days of Jesus, followed by a study of the social teachings of the Hebrew prophets and sages, and of Jesus. Text-book, collateral readings, and lectures.

Throughout the year, three hours.

Given in 1921-22.

COURSE V—History of the Early Church. A study of the origin and development of the Christian church, its intellectual controversies, its spiritual struggles, and their value for the present day, from the latter part of the Apostolic Age to the time of Augustine. Text-book, collateral readings, and lectures.

First term, three hours.

Given in 1922-23.

COURSE VI—The Bible as Literature. A study of the content, literary forms and quality of distinctive sections of the Bible. Special attention will be given to the books of wisdom and poetry in the Old Testament. Text-book and lectures.

First term, three hours.

COURSE VII—Biblical Problems. A study in more detail of a selection of such problems as the documentary hypothesis, the synoptic problem, eschatology, conceptions of the kingdom, the Paul and Jesus question, etc. Courses II, III, or IV, are a prerequisite. Readings, papers, and lectures.

Second term, three hours.

Given in 1922-23.

ENGLISH LANGUAGE AND LITERATURE

This department aims to cultivate straight thinking and facility of expression; to acquaint the student with the various fields of English writing from a historical standpoint; and to develop a genuine taste for good literature and the ability to interpret it. The formal study of composition is undertaken in Course I, but in all courses attention is given to correct expression, both oral and written.

COURSE I—English Composition. The principles of rhetoric, the study of selections, and frequent practice in the writing of themes. The course aims to teach the student to find appropriate thought, its orderly arrangement, and its adequate and easy expression.

Throughout the year, three hours.

COURSE II—Survey of English Literature. A comprehensive view of English literature from the Old English period to the present time. Lectures and recitations on assigned readings from writers representative of the important periods of English literature.

Throughout the year, two hours.

COURSE III—American Literature. A general view of writ-

ing in America from the first colonial period. Lectures, recitations, and reports on assigned readings.

Throughout the year, two hours.

Given in 1922-23.

COURSE IV—Anglo-Saxon. Bright's Anglo-Saxon Reader, with appropriate readings in reference books on the English language. The course aims not only to give a reading knowledge of Anglo-Saxon, but also to show the development from Anglo-Saxon to Modern English. The work will be especially valuable to students planning to teach English.

First term, three hours.

Given in 1922-23.

COURSE V—Old and Middle English Poetry to the Time of Chaucer. The course includes such Old English poetry as Beowulf, the Wanderer, the Seafarer, and The Battle of Brunanburh; and typical Middle English histories, legends, romances, tales, and lyrics. No knowledge of Anglo-Saxon or Middle English is necessary.

Given in 1922-23. *Second term, three hours.*

COURSE VI—Chaucer and the Later Middle English Poets. Most of the time will be spent upon Chaucer; but consideration will also be given to The Vision of Piers the Ploughman, Sir Gawain and the Green Knight, etc., and the ballads.

Given in 1922-23. *Second term, three hours.*

COURSE VII—Shakespeare. A detailed study of one or two plays, and a rapid reading of several others.

Given in 1921-22. *First term, two hours.*

COURSE VIII—The Age of Milton. The Puritan Period. Milton's early poems. Paradise Lost and Paradise Regained. The Cavalier poets. Seventeenth century prose.

Throughout the year, two hours.

Given in 1921-22.

COURSE IX—English Literature of the Eighteenth Century. The age of Pope and the classic tradition. Early periodical

literature. Ballad opera. The beginnings of the English novel. Dr. Johnson and his circle. The romantic movement. Burns.

Throughout the year, three hours.

Given in 1921-22.

COURSE X—Nineteenth Century Poets. The chief British poets from Wordsworth to Tennyson. The Pre-Raphaelites. English verse at the end of the century. Especial attention is given to Tennyson and Browning.

Throughout the year, three hours.

Given in 1922-23.

COURSE XI—Nineteenth Century Prose. Representative writers from Lamb to Stevenson will be studied; particular attention will be given to Lamb, Carlyle, Ruskin, and Arnold.

Throughout the year, two hours.

Given in 1921-22.

COURSE XII—English Drama. The course will trace the development of the English drama from its origin to modern times, tracing its growth through the Miracle Plays, Moralities, and Interludes to 1642; the development of the Heroic Drama; the ethical drama of the eighteenth century and the ballad opera; the growth of melodrama and farce.

First term, two hours.

Given in 1922-23.

COURSE XIII—Contemporary Drama. A study of the new dramatic literature, its technique, aims, and problems, beginning with the later plays of Ibsen.

Second term, two hours.

Given in 1922-23.

COURSE XIV—Prose Fiction. The development of the English novel. The rise of the short-story. The work consists of class-room lectures, and a rapid reading of representative novels.

Second term, two hours.

Given in 1921-22.

COURSE XV—Literary Composition. A course for those who desire to give serious attention to writing in any field.

The course will be limited to a very small number who have satisfied the instructor by work submitted in advance of some ability or promise. Much writing will be required, together with assigned readings, and conferences on work done.

Throughout the year, one hour.

Greek Literature in English. A study in the development of some of the fundamental forms of literature and of the distinguishing characteristics of Greek literature. The course is described under Greek VII and may be counted toward departmental requirements in English.

FRENCH LANGUAGE AND LITERATURE

It is the aim of the courses in this subject to give to the student: (1) an accurate knowledge of the language of the present time both as written and spoken; (2) an appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as outlined above is carried on by means of recitations, written exercises and essays, lectures in French, and collateral readings. Much stress is laid from the beginning upon the ability of the student to express himself directly in the language. With this end in view the work of the class room is conducted in French, and phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I—Elementary French. Fraser and Squair's Shorter French Course is used as a reference book. Oral and written exercises. Dictation. Reading of easy prose.

Throughout the year, four hours.

COURSE I A—Elementary French. A course designed for students who have had but one year of French in the secondary school. Oral and written exercises. Dictation. Exten-

sive reading of prose. Students who satisfactorily complete this course may be admitted to third year French courses.

Throughout the year, four hours.

COURSE II—Intermediate French. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. Composition and conversation.

Throughout the year, four hours.

COURSE III—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, La Bruyère, Pascal, Bossuet, Fénelon, Mme. de Sévigné, Mme. de La Fayette.

Throughout the year, three hours.

Given in 1921-22.

COURSE IV—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire, Montesquieu, Rousseau, the Encyclopedists, Beaumarchais, Lesage, Marivaux, André Chénier.

Throughout the year, three hours.

Given in 1922-23.

COURSE V—French Literature in the First Half of the Nineteenth Century. A study of the principal authors of this period: Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Sainte-Beuve, Balzac.

Throughout the year, three hours.

Given in 1922-23.

COURSE VI—French Literature after 1850. A study of the literary movements in France after the decline of Romanticism, with especial reference to the novelists and dramatists. Outside reading will be required in addition to rapid reading from a number of the authors of this period. A brief survey will be made of contemporary writers, including Rostand and Maeterlinck.

Throughout the year, three hours.

Given in 1921-22.

COURSE VII—Teachers' Course. Careful review of syntax with constant practice in composition. A survey of the general principles of phonetics, and their application to French pronunciation. Discussion of methods of teaching French.

All students who expect to teach French should take this course. Those using French for the first group subject are required to do so.

Throughout the year, two hours.

COURSE VIII—Outlines of the History of French Literature. A general course in French Literature from its beginnings to the present time. Lectures and assigned readings. Open to all students who have completed at least six hours of French beyond Courses I and II. Particularly recommended to those who expect to teach French, and required of all students using French for the first group subject.

Throughout the year, one hour.

GEOLOGY

Including Geography, Mineralogy, and Paleontology

Geology deals with the constitution and history of the earth and the character, history, and relationships of the developing life upon it. It explains many of the natural phenomena at hand, or that one meets in travel, and calls forth careful observation and clear thinking. The courses are planned to give thorough training in the principles of the subject and a sound basis for future industrial, economic, or professional work in its various departments.

COURSE I—General Geology. This course treats of the history of the earth together with its structure and physiography; attention is given to the various agencies which modify the earth's surface, including the atmospheric, aqueous, igneous, and organic; the structure and kinds of rocks, formation of soils, and the deposits of the various economic materials, including coal, oil, gas, ores, and precious stones are considered. Recitations, three hours a week; field and labora-

tory work, two hours a week. No prerequisite unless elected to satisfy required Science in A. B. Course. See page 51.

Throughout the year, four hours.

COURSE II—Advanced Physiography. This course deals with the physiography of the lands and the oceans, and with the atmosphere in relation to climate and weather conditions. Stress is laid on the method of development of topographic forms, and training is offered in field and laboratory methods in physical geography. In the laboratory and field, types of land forms, the methods of making maps, structural, longitudinal, and cross sections are studied. Recitations, two hours a week; laboratory or field work, two hours a week.

First term, three hours.

COURSE III—Commercial and Regional Geography. In this course a study is made of the geographic basis of commerce and commercial products, and stress is laid on the regional phase of the subject. A more detailed study of conditions in the United States is made the basis for comparison with conditions in other countries. There are many large manufacturing plants and shipping concerns in this region, some of which may be visited. Recitations, three hours a week.

Second term, three hours.

COURSE IV—Mineralogy. Crystallography, blowpipe analysis, and determinative mineralogy. A minor part of the work in the laboratory deals with crystal forms and crystal models, and a major part takes up the study of about one hundred fifty minerals by means of the blowpipe and other physical and chemical tests. Open to students who have completed a year in chemistry.

First term, three hours.

COURSE V—Paleontology. This course includes the study of invertebrate and vertebrate animal and plant fossils with reference to structure, classification, habitat, and geological and geographic distribution. The permanency of certain types, the extinction of some groups, and the rise of new forms are noted with the bearing on the theory of evolution. Representatives of the various groups are studied in the labor-

atory and field. Recitations, two hours a week; laboratory and field work, two hours a week. Open to students who have completed Course I and Biology I, or their equivalents.

Second term, three hours.

GREEK LANGUAGE AND LITERATURE

The aim of the department is to give the student a practical acquaintance with Greek life and thought. This can be adequately gained only through a first-hand knowledge of the literature. By accurate work in the first years of the study of the language the student can acquire the ability to read widely and independently.

Students entering college without Greek may take Greek A, and be prepared to enter the later courses with a minimum loss of time.

It is realized that some students have been denied the opportunity to secure a mastery of the language who would be glad to have something of the inspiration that comes from contact with Greek culture and institutions. For such the courses in Greek art, Greek history, and Greek literature in translation are available.

The department possesses a carefully selected collection of casts of antique sculpture, a considerable number of Greek vases and vase fragments, about a thousand photographs, and several hundred lantern slides.

GREEK A—Elementary Greek. This is a course intended to prepare students to enter Greek I after a year of careful work. After the completion of some such book as Allen's First Year of Greek, selections are read from Xenophon and other Attic authors. Students of some maturity and reasonably well grounded in Latin will be prepared in one year to do the work in Greek I with profit.

Only in exceptional cases will this course, without further work in the subject, be counted toward a degree.

This course may not be taken to remove entrance conditions.

Throughout the year, five hours.

COURSE I—Homer. The Iliad or the Odyssey. Detailed study of two books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Greek Composition. A weekly exercise in composition based on passages from classic authors. The aim is to develop a vocabulary and an accurate knowledge of the fundamentals of Greek syntax. Dictation and impromptu writing of Greek are emphasized.

Throughout the year, four hours.

COURSE II—Lysias. Selected Orations. As an introduction to this part of the work a detailed study is made of the history of Athens in the Periclean age and of the Peloponnesian War.

Plato. The Apology and Crito and selections from the Phaedo. Outline of the history of Greek philosophy.

This course is made the basis of the study of historic Greek life and institutions.

Throughout the year, three hours.

COURSE III—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Iphigeneia in Tauris, and Aristophanes' The Frogs. The course is made not only a study of the origin and development of the Greek drama, but also a study in literary evolution.

Throughout the year, three hours.

COURSE IV—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings.

Throughout the year, three hours.

COURSE V—Greek Testament. A close study of a portion of the New Testament, usually the Gospel of Mark. Familiar and accurate knowledge of vocabulary, syntax, and idioms is aimed at. Acts and some of the shorter Epistles are read more rapidly to develop facility in grasping the thought of the original. Much stress is laid on sight reading and on accurate but untraditional translation. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

COURSE VI—Greek Literature. Survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

The following courses are open to students who have completed Course I and to a limited number of juniors and seniors who have no knowledge of Greek.

Greek VII—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. Much attention is given to the development of literary forms. The growth of the Greek drama and its influence on modern drama are closely studied.

Throughout the year, two hours.

COURSE VIII—Classical Archeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean civilization. Greek vase painting. Greek architecture.

Throughout the year, two hours.

COURSE IX—Classical Archeology. Greek Sculpture.

Throughout the year, two hours.

Courses VIII and IX are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required.

GREEK X—Greek History from the Homeric period to the

Roman conquest. The origin and development of social and political institutions among the Greeks, their experiments in popular government, their contribution to medieval and modern civilization. Modern contrasts and parallels are emphasized.

Throughout the year, two hours.

Given in 1921-22.

HISTORY

More or less of historical study is required in all departments of college and of business or professional work. History as a separate department of the curriculum is intended, first of all, to create in the student the historical mind; that is, the habit of approaching questions with as broad a basis of information and as sound principles of investigation and judgment as possible. The second object is the attainment of an understanding of the evolution through which human societies have developed and disintegrated; this, for the most part, with special reference to existing institutions and the present organization of Europe and America. It is hoped, also, that work in the department of History will develop a permanent and intelligent interest in the great movements and the great leaders of European and American life, and that this will contribute to the future satisfaction and efficiency of all who participate in the work of the department.

While obvious circumstances prevent much specialization, the advanced courses are arranged, so far as possible, so as to prepare students for graduate work leading to such professions as teaching, the law, the ministry, and public life. Source material is used in its original form as well as in collected extracts. Readings are assigned in many of the great historical works, and in foreign languages to students capable of using them.

The completion of Course I is required for admission to all other courses in the field of History. Attention is called to other prerequisites attached to various advanced courses.

COURSE I—History of Western Europe. This is a general course in the history of western Europe from the Roman Empire of the fourth century to the present time. It is designed to serve a double purpose. It furnishes a foundation for those students who desire to continue the study of history in the more advanced work of the department; and, on the other hand, it endeavors to meet the needs of those students who are unable to give further time to the study of history, but desire to have a general knowledge of the subject. The scientific principles of historical investigation are emphasized and the student is instructed in the application of these principles to the various problems confronting him during the course. The origins of present day institutions are carefully noted. The course emphasizes the importance of movements, rather than of isolated events; and the student is led to appreciate the influence of these movements upon the various phases of institutional life. The text used is Robinson's History of Western Europe, and a liberal amount of reading from the sources is required. This course is a prerequisite for all other courses in History, and for Political Science III, IV, V, VI, VII, and VIII.

Throughout the year, three hours.

COURSE II—European History, 1815-1920. Beginning with the Congress of Vienna and a summary of the results of the French Revolution, the general development and expansion of Europe down to the present will be studied. A considerable part of the second term will be spent upon the Great War and the first two years of reconstruction. Open to all who have completed History I.

Throughout the year, three hours.

Given in 1921-22.

COURSE III—The Renaissance and the Reformation. The first term is devoted mainly to the study of the Renaissance

in Italy, the second term to the Reformation, chiefly in Germany. Prerequisite, History I.

Throughout the year, two hours.

Not given in 1921-22.

COURSE IV—England in the Nineteenth and Twentieth Centuries. Beginning with the Industrial Revolution, various economic, social and political developments will be studied, only so much attention being paid to text-book work upon the general history of England as may be necessary to get the proper background and perspective. Open to those who have completed History I and have either completed or are taking History II.

Throughout the year, two hours.

Given in 1921-22.

COURSE V—American History, 1492-1789. This course deals with the colonization of America by the nations of Western Europe, with the European background of colonial developments, with the conflict for territory and supremacy in America, and with the revolution in which thirteen of the English colonies became The United States of America. Text-book: Bolton and Marshall, The Colonization of North America. Open to all who have completed History I.

Throughout the year, two hours.

Given in 1921-22.

COURSE VI—American History, 1789-1920. This is a continuation of Course V, and alternates with it.

Throughout the year, two hours.

Given in 1922-23.

COURSE VII—Methods of Historical Investigation. This is intended to give students specializing in History and Political Science practice in methods of historical investigation and writing. It contributes directly to the preparation of the thesis required for graduation, and all students whose major subject is in the department of History and Political Science are urged to take it. The class-work consists of lectures and personal to juniors who are qualified for it, and limited to those who conferences. Open only to seniors and, by special permission,

have pursued work in the department for two years (four terms). The hour of meetings and the exact field of study are to be arranged at the beginning of the year.

Throughout the year, two hours.

Greek History—This course is described under Greek X.

Roman History—This course is described under Latin III-A.

These courses may be counted as work in history and are particularly recommended for those who expect to teach history.

ITALIAN LANGUAGE AND LITERATURE

This department offers two courses in which a thorough study of the grammar is made and a good reading knowledge is obtained. The first year is devoted to an intensive study of the grammar and the reading of easy modern texts. In the second year a study is made of the older Italian classics.

COURSE I—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as De Amicis, Cuore; Goldoni, Il vero Amico; Manzoni, I Promessi Sposi.

Throughout the year, three hours.

Given in 1921-22.

COURSE II—Literature in the Thirteenth and Fourteenth Centuries. Dante, La Divina Commedia; Petrarca, Rime Scelte, etc.

Throughout the year, two hours.

Given in 1922-23.

LATIN LANGUAGE AND LITERATURE

The courses in the Latin department are intended to direct the student to a systematic study of the language and its development, to acquaint him through a varied reading of the best authors with the leading

features of the literature, and to make him familiar with the main facts of Roman history, life, and civilization. Technical grammar and composition are studied only in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and fac-similes of inscriptions and has a good collection of photographs, lantern slides, and antiquities for illustrative purposes.

The instruction is given by means of recitations, supplemented by lectures and, in the advanced courses, by individual work.

LATIN A—Cicero. Selected orations. May be accepted as one unit for entrance.

First term, five hours.

LATIN B—Vergil. Aeneid, Books I-VI. May be accepted as one unit for entrance.

Second term, five hours.

COURSE I—Cicero, De Senectute or De Amicitia. Selections from Pliny's Letters, or selections from Cicero's Letters. Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation.

Throughout the year, four hours.

COURSE II—Horace, selected Odes and Satires.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's life and philosophy, and to as much of the history and customs of the period as sheds light on the subject matter.

Readings from Latin Verse of all periods, including one play of Terence. History of Latin literature.

Throughout the year, three hours.

COURSE III A—Roman History. A study of the history of Rome from the early period through the establishment of the

Empire, with especial reference to the development of the Roman Constitution and political institutions, the growth of the democratic movement, and Rome's contribution to the civilization of later periods. This course may be taken without Latin preparation and may be counted in the department of History.

Throughout the year, two hours.

B—Latin readings and investigations parallel to and illustrative of the material in Latin III A.

Throughout the year, one hour.

Open to all who have completed or are taking Course II.

Given in 1921-22.

COURSE IV—Roman Private Life. Lectures on Roman Private Life with collateral readings in Latin, largely from Pliny's Letters, illustrating the subjects treated. In addition to the Latin readings, library readings and reports on specific subjects in connection with the course are required. The department has a collection of antiquities, charts, and models for illustrative purposes.

The course alternates with Course III. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1922-23.

COURSE V—Roman Topography and Architecture. A lecture course which does not limit the field strictly to the topography of Rome, but attempts to give a general knowledge and appreciation of the city of Rome, its architecture, monuments, history, and customs, as well as its contribution to modern civilization and life. The department has a good collection of illustrative material—maps, topographical models, charts, photographs, and lantern slides. The library contains most of the important books in English needed for the course, in which students are required to do considerable collateral reading.

May be elected without previous preparation in Latin.

Throughout the year, two hours.

Given in 1921-22.

COURSE VI—Advanced Latin Composition. Practice in writing prose, with careful study of syntax and idiom. Individual work designed primarily for those who look forward to teaching or to graduate work. One hour class work and one private conference weekly.

All students expecting recommendations to teach Latin should take this course. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1922-23.

MATHEMATICS

The courses in this department are arranged with a view to develop in the student a certain degree of mathematical maturity and to familiarize him with the subject matter and methods of mathematical work, as well as to provide for the more or less technical and traditional requirements in the different mathematical subjects.

COURSE I—Algebra and Trigonometry. This is a continuation of the algebra required for entrance. Much attention is given to graphical representation of linear and quadratic equations, and the following topics are considered; mathematical induction and the binomial theorem for positive integral exponents, logarithms, undetermined, coefficients, permutations and combinations, the theory of equations and an elementary treatment of determinants. The elements of trigonometry on the plane and on the sphere.

Throughout the year, four hours.

COURSE I A—Solid Geometry, Algebra and Plane Trigonometry. This course is offered to those who do not present solid geometry for entrance but who desire to continue their mathematical studies. It includes work in what might be termed intermediate algebra, rapidly reviewing quadratic equations and reading some new chapters. The course concludes with a study of plane trigonometry.

By arranging in advance with the instructor and the regis-

trar, this course may be discontinued at the close of the section on solid geometry.

Given in 1922-23.

Throughout the year, four hours.

COURSE II—Analytic Geometry and Calculus. An elementary treatment of the fundamentals of analytic geometry, of two and three dimensions. This course includes a complete elementary treatment of differential and integral calculus.

Throughout the year, four hours.

COURSE II A—Selected Chapters in Mathematics. This course requires Course I or Course I A, and is composed of an introductory chapter on elimination, including the use of determinants; the study of the algebraic polynomial, by means of graphical representation; the analytic geometry of the line and the more important theorems of equations; the definition of a derivative; simple applications of the calculus to problems involving tangents, maxima and minima; and the study of elementary transcendental functions.

This course is especially adapted to those who are expecting to teach secondary mathematics.

Throughout the year, three hours.

COURSE III—Advanced Calculus. This course is a continuation of Course II. It should be taken by those who intend to pursue advanced work or are looking forward to work in applied mathematics. This course presupposes Course II or Course II A.

First term, three hours.

COURSE IV—Differential Equations. An elementary treatment of differential equations, with applications to physics and mechanics. This course is necessary to a well-rounded course in mathematics.

Second term, three hours.

COURSE V—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometry of Position; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the

resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1921-22.

COURSE VI—Functions of a Complex Variable. A general introduction to the theory of functions of a complex variable.

Throughout the year, two hours.

Given in 1922-23.

PHILOSOPHY

The courses of the department are planned with the following purpose: to bring about reflective views of human society and the world order; to establish an attitude toward life and its problems that will make the individual an efficient factor in promoting and conserving the welfare of his fellowmen; to lead the student to a better understanding of the laws of human nature, and to a critical study of himself; and to acquaint those desiring it with laboratory methods in psychology. The standpoint is in strict accord with the assured results of scientific research. Facts are brought together from the various fields of science, and presented in such a way as to produce breadth of vision in the interpretation of natural and social phenomena.

COURSE I—Logic. The nature and function of thought; the methods of science; errors of perception, memory, and testimony; immediate and mediate reasoning; material and formal fallacies; the logic of argumentation. Text-book, assigned readings, lectures, and written exercises. Open to juniors and seniors.

Second term, three hours.

COURSE II—General Psychology. The structure and the functions of consciousness are exhibited by means of lectures, class-room demonstrations, and recitations. The subject is

treated from the standpoint of natural science. Each student is required to perform a limited number of experiments. Open to juniors, and to sophomores who major in the department.

First term, three hours.

COURSE III—Experimental Psychology. An introductory course for students who desire to become acquainted with the methods of investigating psychological phenomena. Experiments in the psychology of the special senses, attention, memory, feeling, fatigue, reaction-time, etc. Lectures, laboratory work, and supplementary readings. Two hours of laboratory work for one hour of credit. Open to those who have taken or are taking Course II.

Throughout the year, two hours.

COURSE IV—Social Psychology. An examination of the social implications of mental development in the individual and the race. The influence of the social environment upon the development and the organization of native tendencies; the rise of self-consciousness; the evolution of the social consciousness through the application of moral judgment. The psychology of the crowd, of fashion, and of custom. Lectures, text-book, collateral readings. Open to those who have taken Course II.

First term, two hours.

Given in 1922-23.

COURSE V—Ethics. An introductory study of the moral life from the standpoint of its development, theory, and practice. An attempt to lay a rational basis for the moral life in the individual. Lectures, text-book, written exercises, and supplementary readings. Open to those who have taken Course II.

Second term, three hours.

COURSE VI—History of Ancient and Medieval Philosophy. A survey of the development of philosophic thought from Thales to the Renaissance, considered in its relation to the sciences and to religious, social, and political conditions. Special attention is given to Democritus, the Sophists, Plato, and Aristotle, and their influence upon subsequent thought. Open to juniors and seniors.

First term, two hours.

Given in 1921-22.

COURSE VII—History of Modern Philosophy. The growth of philosophic thought from the time of Bacon and Descartes. The relations are exhibited which philosophy has sustained to the development of modern civilization. Lectures, text-book, and assigned readings. Open to juniors and seniors.

Second term, two hours.

Given in 1921-22.

COURSE VIII—Current Philosophical Tendencies. A course designed to acquaint the student with contemporary tendencies in philosophical thought. The standpoints of outstanding present-day philosophers in Europe and America will be discussed. Lectures, collateral readings, and theses. Open to seniors, and to juniors who have had two courses in philosophy.

Second term, two hours.

Given in 1922-23.

COURSE X—Philosophy of Religion. An historical study of the religious consciousness and its resultant phenomena. The origin, development, and distinctive beliefs of the more important religions of history will be studied not only to know them but to secure material of value for illustrating or reaching conclusions concerning: the nature of religion; theories of its origin; the character of such primitive features as fetichism, totemism, sacrifice, taboo and magic; the causes of variation in religion; the absense or presence of the missionary impulse; the relation of religion to science and ethics; its influence upon social ideals and institutions; the universal elements in all religion; and the ultimate truth of religion. Should be preceded by Course V and Bible IV. Text-books, lectures, papers, and collateral reading.

Throughout the year, three hours.

Given in 1922-23.

COURSE XII—Christian Fundamentals. This course is designed for those students who have already done some thinking and reading on the fundamental problems, practical and speculative, of Christianity. Much attention will be given to the social point of view in the study of such questions as the nature of Christianity, of sin and its transmission, of inspira-

tion, the conception of God, personal and social salvation, eschatology, and the atonement. Text-book, lectures, and readings.

Second term, three hours.

PHYSICS

This department offers courses which contribute to general culture, and those which give training for technical work. They are presented by means of lectures with experimental demonstrations, combined with recitations and discussions of problems. In addition the student performs experiments in the laboratory for the purpose of obtaining a practical knowledge of the fundamental laws and principles of the science.

COURSE I—College Physics. This course aims to present the fundamental principles of physics, develop its laws, and acquaint the student with the relation between energy and matter. These principles and laws are presented in the study of mechanics and their applications to heat, sound, light, and magnetism and electricity follow. Lectures and recitations, three hours a week. Laboratory work, two hours.

Throughout the year, four hours.

COURSE II—A Problem Course to supplement Course I. Open only to students who are pursuing Course I.

Throughout the year, one hour.

COURSE III—Elementary Analytic Mechanics. A course which deals with the mathematical side of physics. Special attention is given to the solution of problems in statics, kinematics, and kinetics, and other problems related to technical as well as advanced work in physics. Physics I and Mathematics II are prerequisites.

Throughout the year, two hours.

COURSE IV—Physical Measurements. A lecture and laboratory course involving the adjustment and use of instruments of precision. The significance and accuracy of results,

together with the sources of errors and means of their elimination are carefully discussed. Open to students who have completed Course I.

Throughout the year, three hours.

COURSE V—General Physics. A course in theoretical physics dealing principally with mechanics, heat, the properties of vapor and gases, the theory of solutions, the kinetic theory of gases, thermo-dynamics, magnetism and electricity. Lectures, experimental demonstrations, and recitations, two hours a week. Laboratory work, four hours a week. Open to students who have completed Course I and Mathematics II.

Throughout the year, four hours.

COURSE VI—History of Physics. Open as a free elective to students who have completed Course I.

Throughout the year, two hours.

Given in 1921-22.

COURSE VII—Electrical Measurements. Lectures and recitations, supplemented by laboratory work in the theory of measurements designed to acquaint the student with the practical methods of measuring electrical quantities. It includes the standard methods of determining resistance, current, E. M. F. capacity, induction, conductivity, etc. One hour, lecture and recitation; four hours, laboratory. Open to those who have completed Physics I and Mathematics I.

First term, three hours.

COURSE VIII—Direct and Alternating Currents. A study of the production, control, and distribution of the electric current. Special attention is given to the dynamo and motor, not in the sense of an engineering problem of construction, but in their relation to the utilization of electrical energy. The course includes the principles and practice of transformation and conversion of alternating currents. One hour, lectures and recitations; four hours, laboratory work. Open to students who have completed Physics VII.

Second term, three hours.

OTHER COURSES. For students desiring to specialize in physics, courses dealing with any of the subjects treated under this department will be given as the work is demanded.

POLITICAL SCIENCE

The courses in this subject are planned to give students an insight into political institutions in general, and into those of the United States in particular. Special attention is devoted to principles which are at present under special discussion, and to changes which are now taking place. The aim is both to prepare for intelligent participation in the political life inseparable from citizenship in a democracy, and to afford a basis for advanced theoretical work in political science, for law, and for government service.

For Course I there are no prerequisites other than the general rules governing the choice of electives; for admission to all other courses in political science, Political Science I and History I are required. Other prerequisites are given in connection with various courses.

COURSE I—American Government and Politics. This course comprises a study of the structure and functions of our national and state governments. Throughout the course present-day political problems of national and local interest will be made subjects of class discussion. Beard's American Government and Politics is used as outline for the work.

First term, three hours.

COURSE II—Municipal Government. This course includes an outline of the growth of American municipalities and a study of the organs and functional mechanism of the cities of the United States. Emphasis is laid upon the newer tendencies in municipal government, the commission form of government and the city-manager plan coming in for thorough analysis. Munro's The Government of American Cities, furnishes a basis for the work.

Second term, three hours.

COURSE III—European Governments. A study is made of the constitutional structure and organization of the governments of the more important European countries. The object

of the course is to enable the student to compare these governments, both in theory and in their practical workings, with each other and with our own, The course is open only to those who have had Political Science I and History I. Ogg's Governments of Europe is the text-book used.

First term, two hours.

COURSE IV—Principles of Political Science. This course comprises a study of the origin, nature, and functions of the state and a critical examination of the modern organs and agencies of government. The requirements for admission to this course are the same as for Course III. Garner's Introduction to Political Science furnishes the general outline for the course.

Second term, two hours.

COURSE V—Constitutional Law of the United States. This course is intended to familiarize the student with the leading principles of the American constitutional system. The course will deal principally with the federal constitution and with the decisions of the Supreme Court of the United States. This course will be found of special value to those students who contemplate advanced work in political science or who intend to enter upon the study of the law.

Throughout the year, two hours.

Not given in 1921-22.

COURSE VI—International Law. The general principles of international law, as developed by positive agreement in the form of treaties and conventions, and by common usage as shown by legislation, in decisions of international tribunals and of municipal courts, and in the conduct of nations. Reference is made to the works of the masters in this subject. Special attention is given to the rules which prevail among nations in the peaceful relation, and to the precedents established for the settlement of international problems which are constantly arising. Hershey's Essentials of International Public Law is used as a text, and assignments are constantly made in Moore's Digest of International Law. Prerequisites, History I and Political Science I.

Throughout the year, two hours.

Not given in 1921-22.

COURSE VII—European Diplomacy. This course is introduced by a general discussion of the manner in which the relations between states are conducted. The evolution of the various institutions which have played a part in the diplomatic relations of Europe is then portrayed. An attempt is made to account for the diplomatic situation at the outbreak of the Great War. The Treaty of Versailles of 1920 is compared with the earlier general European treaties. Open to juniors and seniors only. Prerequisites, History I and Political Science I and III.

First term, two hours.

Given in 1921-22.

COURSE VIII—American Diplomacy. The fundamental principles which have governed American diplomatic relations from the beginning of our career as a nation to the present are carefully analyzed and appraised. In cases where there has been a departure from these policies, the causes of these departures are sought out, and the effects of the departures upon our national life are investigated. America's contribution to international law by way of formulation of neutral rights, the Monroe Doctrine, and the operation of courts of arbitration, is pointed out. Moore's Principles of American Diplomacy is used as a class guide. The course closes with a detailed study of the League of Nations. The course should be preceded by Course VII, but approved students may waive this requirement.

Second term, two hours.

Given in 1921-22.

METHODS OF HISTORICAL INVESTIGATION—HISTORY VII. This is described under the courses in History. It includes work in Political Science, and is intended to serve those whose chief interest is in this field, as well as those whose primary interest is History. It may be counted as work in Political Science for those whose thesis comes under this subject.

PUBLIC SPEAKING

The courses in public speaking are designed to train the student in the composition and the delivery of the

various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I—Extemporaneous speaking. This course aims to develop directness, earnestness, and dignity in public address. During the first term a careful study is made of the psychological principles which govern effective speaking. Sample speeches are studied, and assigned passages are delivered by each student. During the second term the same work is continued but more extemporaneous work is required.

Elective for all who are taking or have completed English I.

Throughout the year, one hour.

COURSE II—Argumentation and Debate. First term. In this term the emphasis is laid upon theory. The principles of analysis, the rules of evidence, the elements of logic, and the kinds of fallacies are discussed. There is also brief-drawing leading up to written and oral debate. Second term. The theory of the subject is concluded; the emphasis, however, is laid upon practice.

May be counted toward departmental requirements in English.

Elective for all who have completed Course I.

Throughout the year, one hour.

COURSE III—Forms of Public Address. A detailed study is given the underlying principles of effective speaking, with their application to the various types of speeches commonly found in civic and political life.

May be counted toward departmental requirements in English.

Elective for all who have completed Course I.

Throughout the year, one hour.

COURSE IV—Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation. A systematic study of voice culture is begun in this course. The "Natural Tone Drill" is the system

ısed. A study of the principles underlying gesture work is lso required.

Elective for all who have completed Course I.

First term, two hours.

COURSE V—The study of voice culture is continued in this ourse in a more advanced and technical way. Dramatic readngs from Shakespeare and interpretative studies of the masterieces of literature will be given each student.

Elective for all who have completed Course IV.

Second term, two hours.

SPECIAL WORK for the individual pupil will be given in rivate lessons. A fee of ten dollars for each term hour will e charged.

SPANISH LANGUAGE AND LITERATURE

This department offers three courses in which a thorugh study is made of the grammar and a good reading nowledge is obtained. Attention is also given to conersational work.

Spanish is not taught as a commercial language, but vith exactly the same aims as any other modern language nd literature.

COURSE I—Elementary Spanish. Espinosa and Allen's Elenentary Spanish Grammar, with abundant oral and written exrcises. Reading of such easy Spanish as Alarcón, El Capitán Veneno; Galdós, Doña Perfecta.

Throughout the year, three hours.

COURSE II—Intermediate Spanish. A study of modern panish novels and dramas. Composition work is continued vith some such text as Umphrey's Spanish Prose Composition.

Throughout the year, three hours.

COURSE III—Classical Spanish Literature. Selected works f Cervantes, Calderon, Lope de Vega, etc.

Throughout the year, three hours.

SURVEYING AND GRAPHICS

The courses in surveying and graphics are based largely on the needs of the civil engineer and the draughtsman. The work is scientific and yet thoroughly practical in its scope and methods. While these courses are provided for students taking B. S. Group IV, they are open as electives to all students.

COURSE I—Descriptive Geometry and Elementary Mechanical Drawing. The problems are those relating to the point, line, and plane, the representation of surfaces, their intersection and development. This course includes instruction in the use and care of instruments and simple drawing in orthographic, isometric and cabinet projections.

Throughout the year, four hours.

COURSE II—Plane Surveying. This course consists of a series of lectures, supplemented by exercises in the field. The student is taught the use of the chain, tape, compass, transit and level. The work in the drawing room consists of the computations incident to the work of the surveyor and in plotting from notes taken in the field. Open to students who have completed Mathematics I.

First term, three hours.

COURSE III—Railway Surveying. This course consists of a study of railway curves and earthwork. The field work includes a reconnaissance, the preliminary and location surveys, and the necessary computations and maps. Open to students who have completed Course II.

Second term, three hours.

COURSE IV—Mechanical Drawing. This course includes plotting, tracing, the making of blue prints, detail and dimension drawing from sketches, models, and from other drawings with a different scale. Open to students who have completed or are taking Course I.

Throughout the year, three hours.

COURSE V—Applied Mechanics. This course includes a

study of the strength and elasticity of beams and columns, with the application of the principles of mechanics; in the first term to structures of steel and timber, and in the second term to structures of re-inforced concrete. Open to students who have completed or are taking Mathematics II and Physics III. Under certain conditions the course may be taken without completing Mathematics II.

Throughout the year, three hours.

COURSE VI—Structural Mechanics. This course includes a study of strains and stresses with the application of the principles of mechanics to the design of roof and bridge trusses, and the determination of the dimensions and details of the same. Design of a simple bridge with working drawing. Open to students who have completed or are taking Course V.

Throughout the year, four hours.

COURSE VII—Highway Surveying. A study of the methods and materials of modern highway construction and maintenance, supplemented by lectures and papers prepared from government reports and current periodicals. Several short trips will be made to nearby cities to inspect materials and methods of construction. Open to students who have completed Course II and III.

Second term, three hours.

Given in 1922-23.

PHYSICAL TRAINING

For Men—The object of this department is to promote the health, increase the strength and secure the symmetrical development of the students. These objects are accomplished by class exercises in the gymnasium during the winter, on the field in the fall and spring, and by periods of optional work after class hours.

Physical measurements and tests are taken upon entrance, at the close of the college course, and at other times as may be necessary. These determine the

student's condition and needs, and the character and amount of exercise necessary to overcome irregular development or deformities that are amenable to physical exercise.

Students will receive personal advice with reference to habits of life, exercise, study and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise is required of all freshmen and sophomores three hours a week, from the middle of October to the middle of May. Exemption will be granted only on certificate from a physician designated by the Faculty Athletic Committee, the examination to be at the student's expense.

For Women—The aim of the work is to promote the general health, freedom, and poise of the body. It is based on rhythmic expression, a scientific system of technique founded upon rhythm, which gives joyous, invigorating, and creative exercise. The body is relaxed, tension is removed, repression is eliminated. Rhythmic expression stimulates the imagination and develops not only perfect health and coordination of body but also an understanding of beauty in nature and in art.

Two hours of the work are required throughout the year of all freshmen and sophomore women. Special corrective work may be substituted for the above by those who want it. Advanced elective or corrective work is offered to juniors and seniors. The gymnasium is conveniently located in Hulings Hall. Competitive outdoor work is encouraged.

Required Work

For graduation in any Group, all work specified as required must be completed, and additional subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. In the senior year a thesis is required.

The regular number is sixteen recitations weekly, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours' work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

List of Electives

The following list of elective studies includes all subjects that are elective in any of the Groups. Some of the subjects are required in one or more of the Groups, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflicts in hours.

3. So far as possible all required work below his rank as well as Group Electives must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject. No credit toward graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5. The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the course of instruction found on pages 52 to 101.

	First Term	Second Term
Astronomy I	3	3
Astronomy II	..	2
Astronomy III	..	2

	First Term	Second Term
Biology I	4	4
Biology II	1	1
Biology III	4	4
Biology IV	4	4
Biology V	3	..
Biology VI	..	3
Biology VII	3	3
Biology VIII	3	..
Biology IX	4	..
Biology X	..	4
Biology XI	1	1
Biology XII	2	2
Chemistry I	4	4
Chemistry I A	3	3
Chemistry II	3	3
Chemistry III	4	4
Chemistry IV	2	2
Chemistry V	3	3
Chemistry VI	3	3
Chemistry VII	3	3
Chemistry VIII	4	4
Chemistry IX	3	3
Chemistry X	2	2
Chemistry XI	3	3
Economics I, II	3	3
Economics III, IV	2	2
Economics V, VI	2	2
Education I	3	..
Education II	..	3
Education III	..	3
English II	2	2
English III	2	2
English IV, V	3	3
English VI	..	3
English VII	2	..
English VIII	2	2
English IX	3	3
English X	3	3
English XI	2	2
English XII, XIII	2	2

	First Term	Second Term
English XIV	2	..
English XV	1	1
English Bible II	2	2
English Bible III	2	2
English Bible IV	3	3
Englis Bible V	3	..
English Bible VI	3	3
English Bible VII	..	3
French I	4	4
French I A	4	4
French II	4	4
French III	3	3
French IV	3	3
French V	3	3
French VI	3	3
French VII	2	2
French VIII	1	1
Geology I	4	4
Geology II	3	..
Geology III	..	3
Geology IV	3	..
Geology V	..	3
Greek A	5	5
Greek I	4	4
Greek II	3	3
Greek III	3	3
Greek IV	3	3
Greek V	2	2
Greek VI	4	4
Greek VII	2	2
Greek VIII	2	2
Greek IX	2	2
Greek X	2	2
History I	3	3
History II	3	3
History III	2	2
History IV	2	2
History V	2	2
History VI	2	2
Italian I	3	3

	First Term	Second Term
Italian II	2	2
Latin A	5	..
Latin B	..	5
Latin I	4	4
Latin II	3	3
Latin III A	2	2
Latin III B	1	1
Latin IV	2	2
Latin V	2	2
Latin VI	2	2
Mathematics I	4	4
Mathematics I A	4	4
Mathematics II	4	4
Mathematics II A	3	3
Mathematics III	3	..
Mathematics IV	..	3
Mathematics V	3	3
Mathematics VI	2	2
Philosophy I	..	3
Philosophy III	2	2
Philosophy IV	2	..
Philosophy VI, VII	2	2
Philosophy VIII	..	2
Philosophy X	3	3
Philosophy XII	..	3
Physics I	4	4
Physics II	1	1
Physics III	2	2
Physics IV	3	3
Physics V	4	4
Physics VI	2	2
Physics VII	3	..
Physics VIII	..	3
Political Science I, II	3	3
Political Science III, IV	2	2
Political Science V	2	2
Political Science VI	2	2
Public Speaking I	1	1
Public Speaking II	1	1
Public Speaking III	1	1

	First Term	Second Term
Public Speaking IV, V	2	2
Spanish I	3	3
Spanish II	3	3
Spanish III	3	3
Surveying and Graphics I	4	4
Surveying and Graphics II, III	3	3
Surveying and Graphics IV	3	3
Surveying and Graphics V	3	3
Surveying and Graphics VI	4	4
Surveying and Graphics VII	..	3

General Information

COLLEGE FEES

All students pay a fee of $200 a year, one-half of which is payable at the opening of each term. This includes incidental, library, and gymnasium fees.

In the laboratories the following fees are charged each term:

Astronomy I, II	$ 2.00
Astronomy IV	7.50
Biology I	3.00
Biology III	4.00
Biology IV	5.00
Biology V, VI, VIII	3.00
Biology VII	9.00
Biology IX, X	7.50
Chemistry I, IA	4.00
Chemistry II, III, VI, VII, VIII	7.50
Chemistry IV, IX	5.00
Education III	1.00
Geology I, II, V	2.00
Geology IV	6.00
Philosophy III	1.50
Physics I	3.00
Physics IV, V, VII, VIII	5.00
Surveying II, III	3.00

In addition, breakage of material is charged at actual cost.

By vote of the students the following additional annual fees are collected by the Treasurer, one-half at the beginning of each term:

Athletics for Men	$10.00
Athletics for Women	6.00

Debate and Oratory	1.00
College Publications	5.50

For this students receive free admission to all games and contest held under college auspices, and free subscription to all college publications, including the college annual.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for. No fees are returned except in case of sickness.

LIVING EXPENSES FOR MEN

The young men of the college board in Cochran Hall, in fraternity chapter houses, or in private families. The cost of board in Cochran Hall is $240.00 a year. This rate is subject to change without notice. The cost in chapter houses and private families is, as a rule, ten to twenty-five per cent. more. One-half the room rent in Cochran Hall is due and payable at the opening of the first term and one-half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half-year's payment, but is not returnable in case the student leaves college. The rate for rooms varies from fifty to one hundred dollars a year for each student. All rooms are to be surrendered not later than noon on Monday of Commencement Week. Residents in the men's dormitories make a deposit of $10.00 at the beginning of the year to cover damage to buildings. The unused portion is returned at the end of the year. The amount for board in Cochran Hall is due as follows: $60.00 at the opening of the year; $60.00 on the sec-

ond Monday in November; $60.00 at the opening of the second term; $60.00 on the third Monday in April. If the student has a room-mate, the necessary expenses for a year will fall within the following estimates:

	Low	Liberal
Term and laboratory fees	$200.00	$240.00
Room rent, fuel, light	50.00	100.00
Table board	240.00	270.00
Books	15.00	40.00
Total	$505.00	$650.00

Expenses other than those enumerated depend largely upon the student's tastes and habits, and the college does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more. This, of course, does not include traveling or personal expenses. An economical student can live on $550.00 a year.

A circular detailing the expense of living in Cochran Hall will be sent on request.

FOR WOMEN

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors; and young women have access to all departments of the college, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home

or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The hall is under the charge of the Dean of Women, whose influence, as well as that of her competent assistants, is constantly felt in the social, moral, and religious development of the young women under her care.

For the proper maintenance of the hall as a college home for young women, certain specific rules are essential; but it is the policy of the college to make only such regulations as will best protect the interests of those who reside in the dormitory.

The rules governing the conduct of the young women of Hulings Hall were carefully drawn up by the administration of the college and the Dean of Women, and by action of the faculty were entrusted to the Student Government Association of the hall, which assumes the responsibility for the observance of all rules and regulations. Thus under the guidance of the Dean of Women and the executive board of the association, the young women of the hall are given individual and community responsibility for their conduct in college life. A copy of the regulations for the government of the hall will be sent on request.

The services of a resident trained nurse are maintained in the dormitory, and this valuable addition to the hall life has been justified by the better conditions for health and comfort afforded the young women. A $10.00 house fee is made payable at the beginning of the year. In case a student leaves be-

fore the beginning of the second term, one-half of this fee is refunded.

The rooms are furnished with single beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: sheets, pillow-cases, bed covering, towels and napkins.

The rates by the year, including board, room, heat, and light, are $335.00 for each student. This rate is subject to change without notice. The rooms are all double, so that two students occupy each room. In case a student desires to room alone, there is an additional charge of $50.00. Bills are payable in four installments as follows: $100.00 at the opening of the year, $85.00 on the second Monday in November, $85.00 at the opening of the second term, and $65.00 on the third Monday in April. A deposit fee of $10.00 is required when a room is reserved. This fee is credited on the last payment of the year, but is not returnable after July first or in case the student leaves college before the end of the year.

AID TO STUDENTS

Self-Help—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the college or the boarding clubs. Others find in town opportunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the college to help students who help themselves.

The Lindley Endowment—By the will of the late Miss Lucy Lindley, of Meadville, the college received

the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund—In 1904 Mrs. Hettie F. Ballantyne, of Pittsburgh, gave to the college thirty thousand dollars in memory of her husband, James Alexander Ballantyne; the fund is known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expenses, of the sons and daughters of ministers of the Pittsburgh Conference, and of young men from within the bounds of that conference who are studying for the ministry. This fund is administered by the officers of the college faculty on recommendation of a committee of the Pittsburgh Conference.

The George W. Wright Scholarship Fund—This is a gift of $1,000 from the Honorable George W. Wright, of Mercer, Pa., a former student of Allegheny College. The proceeds of this fund are to constitute a scholarship to be awarded each year on the nomination of Mr. Wright's representative.

The Chambers Scholarship Fund—This is a fund of $11,750 established by the estate of the late George W. Chambers, of Oil City. The interest on the endowment is used to provide loans for worthy students.

High School Scholarships—The Board of Trustees has established prize scholarships of one hundred dollars each, to be awarded each year to honor students in the high schools of Pennsylvania ranked first grade

by the State Department of Education and schools of like rank in other states in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must be awarded to the one who has maintained the highest scholastic rank during his high school course; if the class numbers more than ten and not over twenty-five, it may go to the first or second in rank; if the class numbers more than twenty-five and not over fifty, it may go to any-one of the highest three; if there are over fifty in the class the hundred dollar scholarship and a secondary scholarship of fifty dollars may be awarded to any two of the highest five. The amount of the scholarship is credited toward the payment of the fees of the freshman year.

Educational Society Loans—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. The loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference. The loans are made by the Society on the recommendation of the faculty.

No aid from the above mentioned funds, or from any other source, is given to students who use tobacco.

A student having received aid from any of the college funds will be given a letter of dismissal to enter another college only after all such aid shall have been returned.

RELIGIOUS CULTURE

The college was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

The religious influence of the college is not in any sense sectarian, but Christian. On the rolls this year are representatives from eighteen Christian denominations.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Their services are held on Wednesday evening of each week.

Chapel services are held each morning, and all students are required to be present. Preaching services are held in the chapel on Sunday mornings at eleven o'clock. All students are expected to attend these services unless regularly attending some church in the town. The roll of preachers for the year is as follows:

Feb. 15, Professor Frederick G. Henke, Ph.D.
Feb. 22, Reverend Robert Clements, D.D.
Feb. 29, Reverend Luther Freeman, D.D.
March 7, Reverend S. S. Marquis, D.D.
March 14, Reverend T. R. Courtice, D.D.
March 21, Reverend Bruce S. Wright, D.D.
March 28, President Samuel C. Black, D.D.
April 18, Reverend I. Garland Penn, D.D.
April 25, Reverend Raymond L. Forman, D.D.
May 2, Chancellor Samuel B. McCormick, LL.D.
May 9, Bishop Rogers Israel, D.D.
May 16, Reverend Sheridan W. Bell, D.D.

May 23, Reverend Virgil E. Rorer, D.D.
May 30, Professor Albert C. Knudson, D.D.
Sept. 26, President Fred W. Hixson, D.D., LL.D.
Oct. 3, Reverend Lloyd L. Swisher, D.D.
Oct. 10, Professor Irwin R. Beiler, Ph.D.
Oct. 17, Reverend Thomas R. Thoburn, D.D.
Oct. 24, Abram W. Harris, LL.D.
Oct. 31, Reverend S. S. Marquis, D.D.
Nov. 7, Reverend H. B. Boyd, D.D.
Nov. 14, Professor Frederick G. Henke, Ph.D.
Nov. 21, Reverend W. E. Hammaker, D.D.
Nov. 28, Reverend L. W. Sherwin, D.D.
Dec. 5, Professor Charles F. Sitterly, Ph.D.
Dec. 12, Reverend R. E. Brown, D.D.
Jan. 9, Reverend Ernest C. Wareing, D.D.
Jan. 16, Reverend J. B. Horton.
Jan. 23, Reverend J. W. G. Fast, D.D.
Jan. 30, Reverend Norris A. White, D.D.

THE ADVISER SYSTEM

Each student on entering chooses some member of the faculty, who serves throughout the freshman year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be perfectly fraternal, without restraint on either side. At the beginning of the sophomore year the professor under whom the student chooses to do his major work becomes the student's adviser for the remainder of the course.

HONOR SYSTEM

All college examinations and formal quizzes are conducted under an honor system, by which the presence of instructors in the room is dispensed with, and the student is placed on his honor. The following signed declaration is required to make the examina-

tion valid: **"I hereby declare on my honor that I have neither given nor received aid in this examination."**

All cases of suspected dishonesty are dealt with by the Student Honor Committee, who are authorized to decide on the question of guilt and to recommend to the faculty that a senior, junior, or sophomore found guilty of a first offense, and a freshman found guilty of a second offense, be dismissed from college.

CLUBS

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members along the lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the college. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Philo-Franklin Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate. The society is under the guidance of representatives of the departments of English and Public Speaking.

Le Petit Salon meets monthly for the purpose of French conversation and study of French art, literature, etc. Its alternate sessions are in conjunction

with the Meadville branch of the Alliance Francaise, an international organization. The membership is limited to thirty and includes the instructors and advanced students in French.

The Modern Problems Club, under the guidance of the departments of History and Economics, meets monthly for the discussion of current social, economic, and political problems. This club, which is a branch of the Intercollegiate Civic League, is limited to juniors and seniors.

The Tingley Biological Club, composed of instructors and advanced students in the Biology department, meets fortnightly for the presentation and discussion of papers by the various members; each member presents two papers a year dealing with some phases of biological research.

The Thoburn Club is an organization composed of such men of the college as are fitting themselves for the ministry, missionary work, Young Men's Christian Association service, or any other public religious activity. It brings to the college each year a number of lecturers on such subjects as would naturally appeal to the membership; and holds monthly meetings for social intercourse, intellectual debate, and religious stimulus. It is in close alliance with the Thoburn Chair of English Bible and Philosophy of Religion. For many years it has been one of the best known religious forces in the college.

The Dutton Society of Applied Science, composed of instructors and students in the department of Mathematics and Surveying, meets fortnightly for the discussion by students of problems and current events in the field of applied science, and for the

presentation of technical papers by practicing engineers. Several short trips are made each year to inspect and investigate construction projects in the vicinity of Meadville. All members of the society hold membership in the American Association of Engineers, and it is planned to hold part of the meetings in connection with the local chapter of that organization.

JOHN C. STURTEVANT MEMORIAL FOUNDATION

By a gift of a fund of $5,000, Mr. Paul Sturtevant, '99, and Mr. Watkin P. Sturtevant, '06, have established a Lectureship Foundation in memory of their father, Hon. John C. Sturtevant. The income from this fund is used in providing lectures by eminent men on topics of general interest.

HONORS

Graduation Honors

Seniors who have had no grade less than A during their entire college course are awarded "summa cum laude." All other seniors who have had no grade less than B and have maintained an average of A are awarded "magna cum laude." All other seniors who have had no grade less than C and have maintained an average of 88 are awarded "cum laude." Graduation honors are announced at the Commencement exercises.

Class Honors

In each class students who have had no grade less than B during the year and who have maintained an average of A are awarded "First Honors." Other

students who had no grade less than C and have maintained an average of 88 are awarded "Second Honors." Class honors are announced at the opening of the college year.

PRIZES

Four annual prizes are open for competition among the students of the college classes.

The Wakefield Oration Prize—Mr. James A. Wakefield, of Pittsburgh, offers a prize of fifty dollars in the name of his grandfather, the Reverend Samuel Wakefield, D.D., awarded in February of each year to the young man delivering the best oration. The winner of this prize represents the college in the Intercollegiate Civic Oratorical League Contest held in May.

The Philo-Franklin Oration Prize—The old Philo-Franklin Literary Society has secured a permanent endowment fund of six hundred dollars for prizes in oratory. The income provides a first and second prize. The contest is open only to members of the Philo-Franklin Forum.

Heckel Prizes in Science—Two prizes, a first prize of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburgh. These prizes are awarded for the best two theses written by graduate or undergraduate students upon scientific subjects. The theses are presented on the first day of May and the prizes awarded on the following Commencement Day.

Ballinger Prize—A prize of twenty-five dollars is offered by The A. L. Ballinger Co., of Meadville, to be given each year to that member of the senior class

who has shown unusual excellence in chemistry, under terms agreed upon by the donors and the head of the department of Chemistry.

ATHLETICS

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all men of the college are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. By an arrangement voluntarily entered into by the students, all young men pay $10.00 and all young women $6.00 for the support of athletics. For this they receive season tickets to all games. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be *bona fide* students taking not less than twelve hours' work; must have been registered at the opening of the year in which they compete; may not have more than four hours' condition in former or current term's work; and may not receive remuneration, directly or indirectly, for their services. The college is a member of the National Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES

The degree of Bachelor of Arts is conferred upon students who complete in a satisfactory manner the requirements under any one of the A. B. Groups. The degree of Bachelor of Science is conferred upon students who complete in a satisfactory manner any one of the Science Groups.

Bachelors of Arts of this college may pursue, in residence, work in not more than two distinct lines of study; and on the completion of a full year's work, including a satisfactory thesis, receive the degree of Master of Arts.

The degree of Master of Science is conferred upon Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the college pays a diploma fee of ten dollars.

Register of Students

Graduate Students

Bollinger, Giles Mallalieu..Meadville.....558 Highland Ave.
B.S., Allegheny, 1920—Chemistry

Brown, Durward Belmont. Wheeling, W. Va.....660 N. Main St
A.B., Allegheny, 1920—Philosophy, English

Copeland, Maud Elizabeth. Meadville .....R. D. No. 9
A.B., Allegheny, 1918—Philosophy, French

Isherwood, James Ernest..Canonsburg.....
A.B., Allegheny, 1920—Philosophy and Political Science

Kerr, Norwood William.. Meadville .....755 N. Main St.
B.S., Allegheny, 1920—Mathematics, Chemistry

Pond, Frederick Logan... Meadville .....764 Baldwin St.
B.S., Allegheny, 1920—Chemistry, Physics

Trace, Fred Birch..... Meadville .....702 Park Ave.
B.S., Allegheny, 1920—Chemistry

Seniors

Acosta, Ramona Leonor.. Sabana Grande, P. R..305 W. College St.
Andrews, Helen Elizabeth. Conneaut Lake.....Hulings Hall
Bacon, Frank Haskell.... Meadville.....633 Williams St.
Belknap, Claribel Avis... Erie.....Hulings Hall
Bernard, Joseph..... Farrell.....Cochran Hall
Blass, Marguerite Elizabeth. Erie.....Hulings Hall
Blodgett, Warren Pierce.. Fredonia, N. Y.....
Bollinger, Alice Belle.... Meadville.....558 Highland Ave.
Brown, Marjorie Elizabeth. Meadville.....601 N. Park Ave.
Brumbaugh, Inez..... Franklin.....Hulings Hall
Brunner, Gladys Harriet.. Cleveland, O.....Hulings Hall
Carney, William Joseph.. Erie.....ΦΔΘ House
Clark, Earl C..... Meadville.....409 Randolph St.
Cleveland, Margaret..... Erie.....Hulings Hall

Clough, Lyle Alton	Corry	Cochran Hall
Curry, Dorothy Mae	Meadville	437 Randolph St.
Davis, Ira Kline	Braddock	Σ A E House
Dean, Marjorie	Portland, N. Y.	Hulings Hall
Dickey, Harold Westlake	Oil City	
Dunbar, George F	Jamestown, N. Y.	Φ Δ Θ House
Dwyer, Paul Sumner	Kittanning	A X P House
Ellsworth, Robert Henry	Meadville	1092 Park Ave.
English, Floyd Wilbur	DuBois	Φ Δ Θ House
First, Frances Hester	Conneaut Lake	Hulings Hall
Fix, E. Lester	Meadville	254 Arch St.
Francis, Thomas, Jr.	New Castle	Φ Δ Θ House
Fuller, Glade G.	Springboro	A X P House
Galbreath, Ida Myrtle	Leetonia, O.	Hulings Hall
Gold, Helen Elizabeth	New Brighton	Hulings Hall
Graham, Nancy Catherine	Franklin	Hulings Hall
Grant, Willard	Meadville	317 Loomis St.
Grimes, Harry Funk	Sycamore	Σ A E House
Hartman, Marlin Wallace	Erie	Σ A E House
Helmlinger, John Dyer	Pittsburgh	Φ Γ Δ House
Henderson, John Frederick	Wellsville, O.	Φ Δ Θ House
Hetner, Fred Friedel	Greensburg	
Hilderbrand, Mary Dunlap	Wampum	Hulings Hall
Howe, Sara Margaret	Tarentum	Hulings Hall
Iams, Merrill Brown	Sharpsville	A X P House
Jelbart, Chester McCabe	Meadville	808 N. Main St.
Kerr, Dorothea	Meadville	755 N. Main St.
Kinney, Alfred James	Meadville	R. D. No. 3
Krueger, Irwin Carl	Erie	
Kruse, Dorothea Edna	West Valley, N. Y.	Hulings Hall
Lawhead, Guy Henry	Clearfield	Σ A E House
Leberman, Selden L.	Meadville	432 Walnut St.
Leffingwell, Victor M.	Meadville	388 N. Main St.
Lermann, Ruth T.	Monessen	Hulings Hall
McCluer, Frederick William	Warren, O.	Δ T Δ House
McCreary, John Charles	Monaca	Δ T Δ House
McCune, Marguerite	Erie	Hulings Hall
McKinley, George Alexander	Meadville	606 N. Main St.
Melcher, Webster DeWitt	Swissvale	Φ Γ Δ House

Miller, Florence Agnes	Corry	
Millhoff, Helen Rebekah	Johnstown	Hulings Hall
Morrison, Marian	Meadville	533 Randolph St.
Nelson, Norman Patrick	New Castle	Φ Δ Θ House
O'Neil, Alys	Hamilton, N. Y.	Hulings Hall
Painter, Dale B.	Butler	Δ T Δ House
Plumb, Stanley E.	Youngstown, O.	Φ K Ψ House
Potter, Clyde David	Nebraska	Φ Δ Θ House
Powney, Ethel Marian	Monessen	Hulings Hall
Roach, Dorothy Stover	Pittsford, N. Y.	
Robinson, Daniel Sturgeon	Uniontown	Σ A E House
Robrecht, Hazel Kathlyn	Wheeling, W. Va.	
Ruse, Harold Jesse	Monessen	Cochran Hall
Russell, James Oscar	Edgewood	Φ Γ Δ House
Schnell, Frieda Regina	N. Tonawanda, N.Y.	Hulings Hall
Seaberg, Ruth Olivia	Mars	Hulings Hall
Shuster, Helen Marguerite	Wilkinsburg	Hulings Hall
Skinner, Clifford Weld	Ashville, N. Y.	A X P House
Smith, Laurence Victor	Meadville	625 Baldwin St.
Stanford, Madeline Natalia	Sheffield	Hulings Hall
Stewart, Maxwell Slutz	Johnstown	Cochran Hall
Tannehill, Norman Bruce,	Scottdale	Φ K Ψ House
Tennies, Raymond Ara	East Randolph, N. Y.	Cochran Hall
Thoburn, Wilbur Collins	Meadville	380 N. Main St.
Thurston, Dorothy	Meadville	Box 113
Titus, Margaret Ruth	Barnes	Hulings Hall
Traum, Wilhelmine	Meadville	691 Alden St.
Tuck, Gladys Marie	Roseburg, Ore.	Hulings Hall
Turner, Elizabeth	Freeport	Hulings Hall
Walker, Anna Jane	Bruin	Hulings Hall
Wood, Gretchen Simon	Oil City	Hulings Hall
Woster, Dorothy Julia	Edinboro	Hulings Hall
Zetler, Paul Alan	Hazelhurst	Φ Δ Θ House

Seniors, 86.

Juniors

Abbott, Marjorie Christine.	Minneapolis, Minn.	Hulings Hall
Baldwin, Roger Lee	Washington, D. C.	Φ K Ψ House
Beattie, Alfred Wesley	Sharon	693 Park Ave.
Bender, Albert Julius	Meadville	196 Oak St.
Bingaman, Walter Weaver.	Latrobe	Cochran Hall
Bird, George Lloyd	Meadville	745 Baldwin
Bird, John Caraway	Meadville	745 Baldwin
Bittner, Guy Clement	Meadville	555 Highland Ave.
Bly, Lucile Mildred	Jamestown, N. Y.	Hulings Hall
Booth, George	Charleroi	Σ A E House
Brevoort, Maurice John.	Sinclairville, N. Y.	Cochran Hall
Britton, Winifred Clare.	Pittsburgh	1131 S. Park Ave.
Brown, Marguerite Christina Cameron	Pittsburgh	Hulings Hall
Brown, Martha Priscilla	Tionesta	Hulings Hall
Buchanan, Hugh Henry	Hastings, Nebr.	Φ Γ Δ House
Bushyager, Glenn Ray	Jeannette	392 E. College St.
Carlson, Sidney H.	Lakewood, N. Y.	Φ Γ Δ House
Challener, William Albert.	Pittsburgh	Φ Γ Δ House
Chapin, Morris Ezra	Union City	Φ K Ψ House
Charlton, Emily Marie	Meadville	630 Madison Ave.
Collins, Lorna Varene	Centerville	Hulings Hall
Conroe, John Sidney	Cambridge Springs	Φ K Ψ House
Cornell, Owen Montague.	Wattsburg	Σ A E House
Coulter, Sara Eleanor	Butler	Hulings Hall
Crandall, Evelyn Estelle.	Edinboro	Hulings Hall
Crumrine, Kennedy, Jr.	Meadville	694 Arch St.
Cunningham, Ray George.	Cattaraugus, N. Y.	Δ T Δ House
Doing, Russell Thomas	Edinboro	Δ T Δ House
Drake, Lucile	Meadville	399 Prospect St.
Dundon, Lynn Culbertson.	Edinboro	Φ Γ Δ House
Dusenbury, Marion	Conneaut, O.	Hulings Hall
Eaton, Hamblen Cowley.	Warren	A X P House
Ellis, Mildred Frances	Meadville	Star Route
Fink, Elouise	Cambridge Springs	Hulings Hall
Fogo, Joseph Ross	Wellsville, O.	Φ Γ Δ House
Frazier, David Wilson	Conneautville	Φ Γ Δ House
Gealy, Mary Evelyn	Oil City	Hulings Hall

Gerdon, James Louis....	Meadville.....	724 N. Main St.
Gibson, John Arthur, Jr..	Butler.....	826 Park Ave.
Gordon, Alexander Wayne.	Pittsburgh.....	Φ Γ Δ House
Halverstadt, Myra Adella..	Lisbon, O.....	Hulings Hall
Hammerton, Olive Fitz-Randolph	Meadville.....	371 George St.
Hickman, Elton Hartford.	Meadville.....	R. D. No. 7
Hixson, Jerome Canady..	Meadville.....	545 Park Ave.
Hoover, Amanda	Franklin.....	285 Loomis St.
Horne, Thomas Brinker..	Pleasant Unity.....	A X P House
Houser, Gertrude Katherine	Meadville.....	288 Loomis St.
Hovis, Genevieve McKean.	Clintonville.....	Hulings Hall
Hovis, Josephine Lucile..	Clintonville.....	Hulings Hall
Hulin, Louise Marion....	Franklin.....	Hulings Hall
Jelbart, Charlotte Abigail.	Meadville.....	808 N. Main St.
Jenkins, Paul Whistler...	Butler.....	Φ K Ψ House
Johnson, Isabel McGilvray	Meadville.....	278 Walnut St.
Jones, Hiram Arthur.....	Beaver.....	Φ Γ Δ House
Jordan, William Edward, Jr.	Woodhaven, N. Y.....	Φ Γ Δ House
Kamerer, James William..	Greenville.....	Φ K Ψ House
Kelly, Robert H.....	Salamanca, N. Y.....	Cochran Hall
Kerr, Ethel Sarah.....	Oil City.....	Hulings Hall
Kirkpatrick, David D.....	Butler.....	Δ T Δ House
Kirschner, Gale Reese...	Edinboro.....	A X P House
Kramer, Arthur.....	Meadville.....	416 Pine St.
Krebs, William Henry....	Gowanda, N. Y.....	Φ K Ψ House
Kunselman, Everett Burke.	Verona.....	Φ Δ Θ House
Lander, Wilma Elizabeth..	Monessen.....	Hulings Hall
Leberman, Gordon B.....	Meadville.....	432 Walnut St.
Leberman, Harold Davis..	Meadville.....	Δ T Δ House
Leffingwell, Harold Randall.	Meadville.....	388 N. Main St.
Lillie, Marjorie Eleanore..	Ripley, N. Y.....	Hulings Hall
Limber, Ralph Clark.....	Sheakleyville.....	Cochran Hall
McCreary, Thomas William, Jr.....	Monaca.....	Δ T Δ House
McKinley, Samuel Walter.	Meadville.....	606 N. Main St.
McMillin, Coral Frances..	Meadville.....	636 Madison Ave.
MacLaren, Elisabeth Aelene.	Warren.....	Hulings Hall
Maitland, Henry Merrill..	Franklin.....	Σ A E House

Maitland, William Howard.	Franklin	Σ Α Ε House
Miner, Mary Elizabeth....	New Castle	Hulings Hall
Morris, Harley Jackson...	Saegertown	Σ Α Ε House
Murphy, Daniel Joseph...	Erie	Σ Α Ε House
Parent, Fernand Noel....	Charleroi	Σ Α Ε House
Parker, D. LaVerne.....	Avalon	Φ Γ Δ House
Peabody, Sarah Mary....	Springwater, N. Y.	Hulings Hall
Pitt, Harriette Francis....	Ripley, N. Y.	Hulings Hall
Postance, Alta Lucile....	Meadville	640 Washington St.
Pringle, Gail Willard.....	Franklin	Φ Κ Ψ House
Proper, John Bowman...	Tionesta	Cochran Hall
Redman, Anna Royal....	Braddock	Hulings Hall
Richey, William Harold..	Vandergrift	Φ Γ Δ House
Runninger, Grace.....	Franklin	Hulings Hall
Russell, Marion Edward..	Falconer, N. Y.	Cochran Hall
Schall, Martha Elisabeth..	Vandergrift	Hulings Hall
Secor, Ralph Brunner....	Ridgway	Φ Γ Δ House
Severn, William Erskine..	Clymer	Φ Κ Ψ House
Shewman, Alon Watson..	Tionesta	Φ Δ Θ House
Shumacher, Cecil Maynard.	Meadville	427 Fairmount Ave.
Smith, Frederick Edward.	Meadville	515 Terrace St.
Steele, Mildred Glendine..	Meadville	688 Park Ave.
Stoner, Mildred Louise...	Scottdale	Hulings Hall
Summ, Walter H.....	Edgewood	Φ Γ Δ House
Swanson, Walter P.....	Ridgway	Φ Γ Δ House
Theuret, Ralph Alfonso..	Meadville	705 N. Cottage St.
Virtue, Kenneth Graeme.	Guys Mills	Φ Δ Θ House
Ware, Harold Glenn.....	Greenville	Φ Κ Ψ House
Weaver, Ralph Holder....	Carmichaels	Cochran Hall
Webb, Paul Adam.....	Erie	Cochran Hall
Weller, Clara Mehitible..	Springboro	Hulings Hall
Wineman, Paul Raymond.	Sharon	Φ Κ Ψ House
Wooley, Nelle.....	Scottdale	Hulings Hall
Youngs, Howard Ellis....	North East	Cochran Hall

Juniors, 108.

Sophomores

Agnew, Ralph Palmer	Poland, O.	A X P House
Anderson, Gifford Leach	Sinclairville, N. Y.	A X P House
Arnold, Amanda Ruth	Clarion	Hulings Hall
Avery, Maria Pearl	Meadville	613 N. Main St.
Bacon, Ralph Delos	Meadville	633 Williams St.
Barnes, Mary Kathryn	Toledo, O.	Hulings Hall
Bates, Samuel Penniman	Meadville	674 Highland Ave.
Bigler, Thelma Althea	Franklin	Hulings Hall
Bird, Albert Cotrail	Cattaraugus, N. Y.	Δ T Δ House
Blodgett, Russell Conwell Milo	Fredonia, N. Y.	A X P House
Boak, Raymond Harold	New Castle	Φ Δ Θ House
Bollinger, Charles Aubrey	Meadville	558 Highland Ave.
Bowman, Helen Jane	Kane	Hulings Hall
Boynton, Carlyle T.	Walworth, N. Y.	Φ Δ Θ House
Bozic, John Herbert	Jeannette	Φ Δ Θ House
Brittain, Willard John	New Brighton	Δ T Δ House
Brown, Mildred Bennett	Meadville	Hulings Hall
Burdick, Earl Rudolph	Colegrove	563 Randolph St.
Canby, Joseph Edward	New Castle	Φ Δ Θ House
Cartwright, Oscar Ling	Sharpsville	A X P House
Chapin, George Wilson	Meadville	Allegheny St.
Clarke, Paul Woodworth	Geneva, O.	Φ K Ψ House
Cochran, Charles Howard	Wilkinsburg	Φ Γ Δ House
Collom, Harold Liberty	Meadville	491 Walnut St.
Cottom, Harold V.	Dawson	Σ A E House
Courtney, Raymond Stephen	Guys Mills	452 Arch St.
Croasmun, Nathan William	Redclyffe	Φ Γ Δ House
Cunningham, Roy Cameron	Meadville	400 N. Main St.
Dale, Horace Darlington	Franklin	Φ Δ Θ House
Davies, Samuel Eugene	Oil City	A X P House
Dickson, Francis Harmon	Ashtabula, O.	Δ T Δ House
Dodge, Ruth Angeline	Meadville	647 Cutler St.
Duff, Marjorie	New Castle	Hulings Hall
Eimers, Marion Helena	Ripley, N. Y.	Hulings Hall
Emery, Edward Nowlen	Mercer	Cochran Hall

Estep, Ivey Burdine..... Indiana.....Cochran Hall
Finney, Edwin Ashley.... Meadville.....568 State St.
Fleming, Ira Ozni..... Ridgway.....610 N. Main St.
Flint, Wilson Revis..... Wilkinsburg.....Φ Γ Δ House
Foulke, Mildred Pluma... Meadville.....444 Walnut St.
Foulke, Ruth Maureil.... Meadville.....444 Walnut St.
Gailey, Glenn W..... McKeesport.....Δ T Δ House
Gale, Louis Harry..... Erie.....317 Loomis St.
Gates, Frederick Harold.. Oil City.....Δ T Δ House
Gergely, Emro Joseph.... Meadville.....Cochran Hall
Graham, Mortimer Elliott. Oil City.....Φ Δ Θ House
Greenlund, Tracy Elliott
Glidden ..... Warren.....Α Χ Ρ House
Grenelle, Virginia..... Rochester, N. Y.....Hulings Hall
Hafer, George Byron..... Coraopolis.....Φ Κ Ψ House
Hammond, Margaret Louise Reynoldsville.....Hulings Hall
Henderson, Mary Cora... Connellsville.....Hulings Hall
Henry, William Louis.... Blairsville.....Φ Κ Ψ House
Himebaugh, John Walter.. Meadville.....824 Water St.
Hines, Kenneth Arden... Meadville.....678 State St.
Horton, Marcia Mae..... Wellsville, O.....Hulings Hall
Houser, Marguerite
Katheryne ..... Meadville.....R. D. No. 4
Iffert, Robert Earl..... Greenville.....Φ Γ Δ House
Johnson, Catharine Robie. Erie.....Hulings Hall
Johnson, Tracey Lloyd... Cattaraugus, N. Y.....Α Χ Ρ House
Jolly, Frank Lindholm... Houston, Texas.....Φ Γ Δ House
Jones, William Melville... Homestead.....Δ T Δ House
King, Elizabeth..... Meadville.....1005 Market St.
Kinney, Charles Edward.. Louisville, O.....Cochran Hall
Kirk, Harriet Ruth..... Monessen.....Hulings Hall
Kirk, Helen..... New Castle.....Hulings Hall
Kirkpatrick, Harold
Everett ..... Meadville.....1166 Water St.
Klinestiver, Ralph Henry.. Sheffield.....Φ Γ Δ House
Klinginsmith, Ray
Lawrence ..... Meadville.....633 Madison Ave.
Kofford, Maurice E..... Clarendon.....Δ T Δ House
Lamon, Margaret Louise.. New Kensington.....Hulings Hall
Lane, Ruth E..... Turtle Creek.....Hulings Hall

Larson, J. Edwin	Brookston	Φ K Ψ House
Lee, Lila Frances	Oil City	Hulings Hall
Leeper, Dorothy Stevenson	Terrace	Hulings Hall
Leffingwell, Helen Lucile	Meadville	388 N. Main St.
Loomis, Herschel Hare	Larimer	Φ Δ Θ House
Lorz, Florian Joseph	Meadville	543 Randolph St.
Louden, Linnie Elizabeth	Tarentum	Hulings Hall
Lowrie, Anna Dorothy	Oil City	Hulings Hall
McCandless, Helen	Rochester	Hulings Hall
McIlvaine, Ruth	Meadville	872 Liberty St.
McIntyre, John William	Meadville	568 Washington St.
McQuiston, Nellie Blanche	Meadville	180 Penn'a Ave.
Mabon, Alexander Wallace	Indiana	Φ K Ψ House
MacGowan, Leonard Franklin	Smethport	Φ Δ Θ House
Mack, Bliss Benton	Titusville	Cochran Hall
Marriott, Edna Laurie	North Braddock	Hulings Hall
Marsh, Donnell	Waterford	Cochran Hall
Miller, Harry Clarence	Meadville	548 Baldwin St.
Miller, William Francis	Bellevue	Φ Γ Δ House
Mitchell, James Herbert	Oil City	Cochran Hall
Mook, Paul Vincent	Saegertown	Saegertown
Moore, Floyd Harry	Meadville	572 Randolph St.
Morris, Harry Charles	Saegertown	Σ A E House
Mumford, Edna Elizabeth	Warren	Hulings Hall
Murch, Clifton Yendley	Erie	Δ T Δ House
Murphy, Robert Lockart	Bellevue	Φ Γ Δ House
Mussler, Dorothy Ellen	McKeesport	Hulings Hall
Neely, Clarence Herbert	Franklin	Φ Δ Θ House
Nichol, Dale	Youngstown, O.	Δ T Δ House
Niles, William Henry	Springwater, N. Y.	A X P House
Parker, William Jerome, Jr.	Avalon	Φ Γ Δ House
Pond, Gerald Thompson	Meadville	447 Walnut St.
Powell, Harriett	California	Hulings Hall
Powell, Ralph Moore	Cochranton	Cochran Hall
Prather, Gerald D.	Meadville	554 Walnut St.
Quinn, David Edman	Wellsville, O.	Φ Δ Θ House
Redman, Theodore Miller	Braddock	Σ A E House
Rishell, Ruby R.	Johnstown	Hulings Hall
Robins, Kathryn Clark	Monessen	Hulings Hall

Ross, Julian Lenhart	Meadville	969 S. Main St.
Russell, John Robert	Edgewood	Φ Γ Δ House
Schafer, Leonard Alvin	Pittsburgh	Δ T Δ House
Schanck, Dorothy May	Meadville	828 Water St.
Schlafge, Vivian Anna	Ridgewood, N. J.	Hulings Hall
Shaffer, Helen Marie	Scalp Level	Hulings Hall
Shirer, John W.	Braddock	Σ A E House
Simmons, Katherine Louise	Youngstown, O.	Hulings Hall
Sparks, Samuel Manuel	Tarentum	Cochran Hall
Sprague, Raymond Benedict	Ellington, N. Y.	A X P House
Steele, Sarah	Ruffsdale	961 S. Nain St.
Sterling, Homer Ellsworth	Meadville	695 N. Main St.
Tate, James Harrison	Erie	Φ Δ Θ House
Thoburn, Charles Stanley	Meadville	380 N. Main St.
Thomas, Terence W	Meadville	721 Baldwin St.
Titus, Harriet P	Barnes	Hulings Hall
Tobin, Mary Alica	McKeesport	Hulings Hall
Trotter, Julian	Youngstown, O.	Δ T Δ House
VanCamp, Virginia	Girard	Hulings Hall
VanGorder, Charles Spears	Warren, O	Σ A E House
Wills, Charles Howard	New Brighton	Φ K Ψ House
Wimmer, Charles Robert	Meadville	439 Pine St.
Wise, Vernon Laing	Butler	Δ T Δ House
Wood, Ruth Hazel	Corry	Hulings Hall
Young, Ruth Marjorie	Meadville	464 N. Main St.
Zurbuch, Frank Stewart	Wheeling, W. Va.	Φ K Ψ House

Sophomores, 136.

Freshmen

Allen, Julia	Cambridge Springs	Hulings Hall
Allgood, Sarah Venetta	Tionesta	Hulings Hall
Alter, Samuel Ashe	Parnassus	569 N. Main St.
Andrews, Glen Fairman	North Girard	Cochran Annex
Baily, Walter Lewis	Carmichaels	616 N. Main St.
Baker, April	Farrell	1248 Park Ave.
Baker, Grace Bernice	Ruffsdale	Hulings Hall
Baker, Marie Comerford	Cortland, N. Y.	581 Park Ave.
Barnes, Sylvia Margaret	New Castle	Hulings Hall
Beedy, Mary Janet	Cambridge Springs	Hulings Hall
Berlin, Leonora Adeline	Coudersport	Hulings Hall
Berry, Virginia Louise	Blairsville	Hulings Hall
Bird, Donald Paul	Meadville	745 Baldwin
Bird, William Alfred	Fayette City	317 Loomis St.
Black, Everett Orval	North East	Cochran Annex
Blakeslee, Frank Carl	Union City	Cochran Annex
Boggs, Christine	Beaver Falls	Hulings Hall
Bowser, Jeane Rebecca	Kittanning	Hulings Hall
Boyd, Helen Madeline	Cambridge Springs	Hulings Hall
Braun, George Raymond Dewey	Pittsburgh	630 Baldwin St.
Braun, Louis A., Jr	Bellevue	Cochran Annex
Braymer, Sheldon	Guys Mills	696 Park Ave.
Briggs, Edith Dorothy May	McKeesport	Hulings Hall
Brookhouser, Theodore Edwin	Franklin	902 Diamond Park
Brown, Harriet	Meadville	548 Walnut St.
Brown, George Lorimer	Meadville	364 Walnut St.
Bruce, William	Erie	145 Glenwood Ave.
Buchanan, Mary Isabel	Jamestown, N. Y.	Hulings Hall
Burns, Arthur Roscoe	Hilliards	Cochran Annex
Byers, Reno Lewis	Sharon	385 Randolph St.
Cameron, Markley Connel	Pittsburgh	735 Baldwin St.
Carroll, Daniel Addison	Farrell	693 Park Ave.
Carroll, Dorothy Dodd	McKeesport	Hulings Hall
Carroll, Ruth Thelma	Fredericktown	Hulings Hall
Clark, Dale	Geneva	233 Lincoln Ave.
Clark, Harry James	Charleroi	299 Loomis St.

Clark, Ralph	Meadville	409 Randolph St.
Cleaves, Stephen Campbell	Oil City	693 Park Ave,
Coale, Donald Howard	Warren, O	599 N. Main St.
Cook, Marguerite Irene	Meadville	772 Liberty St.
Cook, Marian Aileen	Meadville	772 Liberty St.
Corbett, William Theodore	Avalon	273 Prospect St.
Courtney, Elizabeth Cassel	Pittsburgh	Hulings Hall
Crandall, Florence Marie	Edinboro	Hulings Hall
Crosby, Fannie	Meadville	379 Walnut St.
Currier, Harold Vergil	Mercer	302 Loomis St.
Curry, Gertrude Ruth	Meadville	437 Randolph St.
Cusick, Charles Leroy	Pittsburgh	740 Stewart St.
Dailey, Doane Wellman	Hornell, N. Y.	Cochran Annex
Dale, Courtney Miller	Erie	Cochran Annex
Davis, Lillian Merrill	Painesville, O.	Hulings Hall
Davis, Richard George	Meadville	743 Stewart St.
DeVore, Leroy Clarence	Meadville	666 Park Ave.
Diffin, Eleanor Burnside	New York City, N. Y.	Hulings Hall
Doolittle, Merrill Ward	Corry	409 Prospect St.
Dorworth, Mary Cecelia	Oil City	Hulings Hall
Drake, Dorotha Mae	Cambridge Springs	Hulings Hall
Dye, Esther Marie	Sandy Lake	Hulings Hall
Dyke, Willard Bruce	Erie	395 N. Main St.
Dykes, Raymond	Meadville	629 Baldwin St.
Eaton, Everett Barry	Cambridge Springs	Cochran Annex
Eaton, Robert Pierson	Warren	409 Walnut St.
Ellsworth, Richard Watson	Meadville	1092 Park Ave.
Field, Russell Henry	Monongahela	196 Oak St
Forster, Kathryn	Rochester	Hulings Hall
Friend, Clyde L.	Clairton	596 N. Main St.
Fry, Kenneth Belknap	Meadville	1046 French St.
Gage, Chase Richard	Cambridge Springs	590 N. Main St.
Gasteiger, Edgar Lionel	Meadville	R. D. No. 9
Gealy, Wendell Baum	Oil City	395 N. Main St.
Gerhardt, Martin Luther	Conneautville	Geneva
Gilmore, Florence Isabelle	Sandy Lake	Hulings Hall
Glunt, David Latta	Charleroi	299 Loomis St.
Goodwin, Kennard	Meadville	862 Grove St.
Graham, Elenor Kathryn	Wilkinsburg	Hulings Hall
Greenfield, Catharine	Bowmansdale	Hulings Hall

Greenwood, Ruth Christine.	Erie	Hulings Hall
Griffiths, Laura Alyce	Meadville	1272 S. Main St.
Grimaldi, John	Meadville	1269 S. Water St.
Hamilton, Helen Beatrice.	Akron, O.	Hulings Hall
Hanst, George Stanley	Lamartine	Cochran Annex
Happell, George Edward.	Saegertown	Saegertown
Harper, Martha	Meadville	889 Liberty St.
Havice, Charles William.	Oil City	350 Rose Lane
Headrick, George Lovell.	Saegertown	458 North St.
Hendershot, Mary Pigot.	Meadville	474 N. Main St.
Henley, Irvin Miller	Edenberg	Cochran Annex
Hershey, Charles H.	Erie	395 N. Main St.
Hild, Margaret E.	Freeport	Hulings Hall
Hoehle, Armand Frederick.	Pittsburgh	440 Arch St.
Hough, Fred W.	Meadville	482 Walnut St.
Houser, Harold Ransome.	Meadville	288 Loomis St.
Howe, Jean Bennett	Tarentum	Hulings Hall
Hudepohl, James Henry.	Tarentum	599 N. Main St.
Hunt, William Henry	Youngstown, O.	Cochran Annex
Ingraham, Donald Riddle.	Townville	350 Rose Lane
Irwin, Dorothy Belle	Meadville	994 Park Ave.
Jamieson, Hugh Crary	Warren	314 Loomis St.
Jennings, Ivah Cass	Diamond	Hulings Hall
Jones, Ruth Eleanor	Southville, Mass.	Hulings Hall
Joyce, Blanche Greenleaf.	Meadville	825 Liberty St.
Kelly, Walter William	Wellsville, O.	395 N. Main St.
Kennedy, A. Wayne	Warren, O.	383 John St.
Kinkaid, Walker	McKeesport	Cochran Hall
Knapp, Horace Byron	Conneautville	409 Prospect St.
Kuder, Katherine	Meadville	489 Highland Ave.
Kurtz, Dorothy Laughlin.	Englewood, N. J.	Hulings Hall
Laffer, Ellen Elizabeth	Meadville	873 Liberty St.
Lane, Georgiana	Lane's Mills	Hulings Hall
Lauterbach, Max	Erie	Cochran Annex
Leffingwell, William Laurens	Meadville	388 N. Main St.
Lighty, Margaret Rebecca.	Lincoln Place	Hulings Hall
Lillie, Howard Russell	Ripley, N. Y.	397 George St.
Ling, Ruth	Meadville	581 Park Ave.
Little, Clifton Talmadge.	Ripley, N. Y.	Cochran Annex

Lorz, Theodore..... Meadville.....543 Randolph St.
Luse, Edwin Franklin.... Carmichaels.....616 N. Main St.
McCafferty, Ruth..... Allison Park.....Hulings Hall
McCleery, Louis Smith... Saegertown..... Saegertown
McDonald, Martha
Catharine ..... Reynoldsville.....Hulings Hall
McElroy, William D..... Youngstown, O.....Cochran Annex
McQuiston, Sara Lucile... Wilkinsburg.....Hulings Hall
Mansfield, Malcolm Arnold. Meadville.....219 Spring St.
Mars, Lawrence Benjamin.. Titusville.....Cochran Hall
Miles, Clyde Cecil..... Gowanda, N. Y.....Cochran Annex
Miller, Andrew Ford..... Pittsburgh.....454 N. Main St.
Moffatt, Joseph Earl..... McKeesport .....Cochran Annex
Mohney, Don Pope..... Ridgway.....633 Williams St.
Mook, Arden David..... Saegertown.....565 N. Main St.
Mook, Milo M..... Titusville.....Cochran Hall
Moore, Marian Lenore.... Meadville.....572 Randolph St.
Morgan, Dorothy Mary... Sharon.....Hulings Hall
Morley, Hubert..... Youngstown, O.....295 Loomis St.
Morrow, Katharine Syblla. Union City.....Hulings Hall
Mosier, Ayleen Marie.... Meadville.....176 Spring St.
Mountsier, Silas Rush, Jr.. Bellevue.....454 N. Main St.
Mowry, Bess Pauline..... Woodlawn.....Hulings Hall
Nunn, Lawrence Hill..... Meadville.....320 Loomis St.
Olmsted, Marion Carolyn. Conneaut, O.....Hulings Hall
Olsen, Tillie Marie..... Springboro.....Hulings Hall
Peck, Leslie Edward..... Wesleyville.....Cochran Annex
Perkins, Harriet Josephine. Cambridge Springs.....Hulings Hall
Peters, Myrtle Sophia.... Rankin.....Hulings Hall
Phillips, Stanley Randolph. Hartstown.....295 Loomis St.
Phillips, William W..... Meadville.....661 Highland Ave.
Quay, Albert Harrison... Townville.....814 Water St.
Quinlon, Margaret..... Meadville.....844 Park Ave.
Rankin, Mary McClure... McKeesport.....Hulings Hall
Raymond, Ralph Howard.. Meadville.....735 Baldwin St.
Reid, Mabel..... Rankin.....Hulings Hall
Remaley, Paul M..... Indiana.....302 Loomis St.
Reyner, Charles Edward.. Leeper.....397 George St.
Reynolds, Elsie Elizabeth.. Meadville.....733 Market St.
Rhoads, Gladys..... Blairsville.....Hulings Hall

Rider, George W.	Freedom	Cochran Annex
Robinson, Helen Gertrude.	New Florence	Hulings Hall
Robinson, Kathryn	Bolivar	Hulings Hall
Rose, Dora Mildred	North Braddock	Hulings Hall
Rose, Dorothy Mildred	Girard	Hulings Hall
Rouse, Rachel	Union City	Hulings Hall
Saeger, Margaret Elisabeth.	Saegertown	Saegertown
Scott, Dala Virginia	Monongahela City	Hulings Hall
Seigworth, Gilbert H.	Lickingville	302 Loomis St.
Shannon, Wilhelmina Velma	Butler	Hulings Hall
Shively, Walter F.	Lamartine	Cochran Annex
Shultz, Paul Howard	Turtle Creek	Cochran Annex
Siedle, Theodore Anthony.	Erie	Cochran Annex
Sims, Alice Dorothy	Erie	Hulings Hall
Skelton, Alice	Sheffield	Hulings Hall
Smith, James Blair	Reynoldsville	Cochran Annex
Smith, Kenneth A.	Saegertown	565 N. Main St.
Smith, Saul S.	Erie	593 Baldwin St.
Smith, Shirley D.	Lakewood, N. Y.	Cochran Annex
Smith, Victorine	Meadville	625 Baldwin St.
Smith, William Howard.	Turtle Creek	Cochran Annex
Stearns, Beatrice Evelyn.	Fredonia, N. Y.	Hulings Hall
Steetle, Ross Patton	Indiana	590 N. Main St.
Stenstrom, John Raymond.	Erie	593 Baldwin St.
Strauss, Leda	Meadville	782 N. Cottage St.
Summers, Robert Hughes.	Youngstown, O.	295 Loomis St.
Tannehill, Willard Francis.	Scottdale	Cochran Annex
Tefft, Charles Ewig	Irwin	392 E. College St.
Thomas, Wilma Irene	Petroleum Center	Hulings Hall
Trenouth, Flora Antoinette.	Sheffield	Hulings Hall
Vinton, John Rudolph	Clairton	596 N. Main St.
Wagner, Adrien Cornelius.	Meadville	1085 Liberty St.
Wagner, Sarah Gertrude.	Braddock	Hulings Hall
Walker, Ernest Lee	Mt. Pleasant	Williams St.
Webb, Arthur Bates	Meadville	628 Highland Ave.
Weigel, Charles Berling.	Erie	317 Loomis St.
White, Basil Herbert	Struthers, O.	Cochran Annex
Whitfield, Mary MacLean.	Crafton	Hulings Hall
Wickham, Mary Blanchard.	Rochester	Hulings Hall

Wilson, Harriet Eleanore. Rochester, N. Y.....Hulings Hall
Withers, Martha Elizabeth. New Castle.....Hulings Hall
Wood, Charles Culberston. Warren, O.....569 N. Main St.
Woodward, Dudley Earle.. Meadville.....666 Cullum St.
Wright, Leslie Orin..... Jamestown, N. Y.....302 Loomis St.
Wright, Matthew Victor.. Erie.....Cochran Annex

Freshmen, 199.

SUMMARY

	Men	Women	Total
Resident Graduates	6	1	7
Seniors	46	40	86
Juniors	69	39	108
Sophomores	90	46	136
Freshmen	113	86	199
Total	324	212	536

Degrees Conferred

JUNE 16, 1920

Doctor of Laws

Arthur Laban Bates
William Henry Crawford
John William Kephart
Charles Edward Locke
Frederick Palmer
Emery A. Walling

Doctor of Divinity

Thomas R. Courtice
George Sullivan Miner
A. J. Rinker
Bruce Simpson Wright

Master of Arts

Vesta Irene Johnson

Bachelor of Arts nunc pro tunc

Thomas Jefferson Prather

Bachelor of Arts

Ella Maxine Allgood
Maude Carmeleta Baker
William Dickson Barcus
Edwin Prince Booth
Durward Belmont Brown
Louden Lee Campbell
Elizabeth Carew
Kathryn Carroll
Reverdy Mead Clothier
Thomas Edward Colley
Helen Marie Davis
Florence Marguerite Diefenderfer
Dorothy Magdalene Evans
Catherine Farr
Jean Freer
Florence Gibbons
Nelson Samuel Goslin
Ellen Frances Green
Helen Dorcas Hall
John Williams Harbaugh
Raymond Laurence Hart
Joseph Hugh Henderson
Leonard Hyskell Hoover
John Jackson Humes
Alfred Russell Hurst
James Ernest Isherwood
Susan Marie Jenkins
Cleaveland Chester Judd
Ella Henrietta Karsh
Helen Elizabeth King
James Wesley Kinnear, Jr.
Marjorie Roudebush Kirkpatrick
Frederick Sackett Laffer

Ming Lu
Thomas Bowles McCafferty
Clifford Abraham McEntarfer
Gladys Ellene McKinney
Howard Dougan Megahan
Helen Duffield Miller
Anna Nelson
Edith Louise Newmaker
Ralph Joseph Nickerson
Arthur Leroy Norton
Florence Elizabeth Pappenhagen
Frank Merrill Parrish
James Young Piper
Edith Prescott Potter
Gladys Marie Raymond
John Dickinson Regester
Charles Francis Richmond
Alice Beryl Robinson
John Paul Scannell
Dallas Malone Stephens
Helen Thoburn
Gertrude Thomas
Ralph Hartman Ware
Ethel Muriel Wood
Lillian Ruth Zearley

Bachelor of Science

Leo Arnold Armagost
Wesley Farber Baum
Othello Ziegler Beatty
Gilbert Andrew Benson
Giles Mallalieu Bollinger
Howard Wilson Bosworth
John Warren Brock
Robert Foote Brownell
Alton Laffey Collins
Harry Edward Coulsan
David Compton Dunn, Jr.
Harriet May Dunn
Doris Ray Gamble
Wendell Brown Gordon
George Edward Hirst
Norwood William Kerr
Norbert Clair Kramer
Cornelius Callender Laffer, Jr.
Elmer LeRoy McMurren
George Frederick Meredith
Louis Alfred Miller
Hanson Hill Monroe
Harland Winfield Mossman
Leon Dewey Pierson
Frederick Logan Pond
John Francis Preston
Ronald Reamer
Richard Floyd Rowley
Harold Leroy Smith
Harry Edward Speer
Fred Birch Trace

NOVEMBER 11, 1920

Doctor of Laws

William Cameron Sproul

Award of Honors

1920

GRADUATION HONORS

Magna Cum Laude

Giles Mallalieu Bollinger
George Edward Hirst
Susan Marie Jenkins

Cum Laude

Maude Carmeleta Baker
Robert Foote Brownell
Thomas Edward Colley
Dorothy Magdalene Evans
Leonard Hyskell Hoover
Gladys Ellene McKinney
Helen Duffield Miller
Florence Elizabeth Pappenhagen
Frank Merrill Parrish
Richard Floyd Rowley
Ralph Hartman Ware
Lillian Ruth Zearley

JUNIOR HONORS

First Honors

Alice Belle Bollinger
Frederick William McCluer
Helen Rebekah Millhoff
Clifford Weld Skinner

Second Honors

Gladys Harriet Brunner
Paul Sumner Dwyer
Helen Elizabeth Gold
Sara Margaret Howe
Ethel Marian Powney
Helen Marguerite Shuster
Wilbur Collins Thoburn
Margaret Ruth Titus

SOPHOMORE HONORS

First Honors

Emily Marie Charlton
Elmer J. Cook
John Arthur Gibson, Jr.
Coral Frances McMillin
Helen Amanda Rose
Ethel Mary Sullivan

Second Honors

Lena Mae Brown
Glenn Ray Bushyager
Donald Lang Eastman
Harriette Francis Pitt
Gertrude Stuntz
Ethel Margaret Swanson
Louisa Weckerly

FRESHMEN HONORS

First Honors

Charles Aubrey Bollinger
Helen Jane Bowman
Julian Lenhart Ross
Sarah Steele
Harriet P. Titus

Second Honors

Ira Ozni Fleming
Emro Joseph Gergely
Charles Stanley Thoburn

Prizes

The Wakefield Oration Prize

George Frederick Meredith

The Philo-Franklin Oration Prize

Mortimer Elliott Graham

The Heckel Prizes in Science

First Prize, Harland Winfield Mossman
Second Prize, Doris Ray Gamble

The Ballinger Prize

Giles M. Bollinger

The William Graves Sharp Freshman Scholarship Prizes

Julian Lenhart Ross
Dorothy Stevenson Leeper

Phi Beta Kappa

ETA CHAPTER OF PENNSYLVANIA
Chartered September 2, 1901

OFFICERS

President
Hon. John J. Henderson

Vice President
Joseph W. Miles

Secretary
Professor William A. Elliott

MEMBERS INITIATED IN JUNE, 1920

Honorary

Professor Frederick Goodrich Henke,
Morningside College, '97

Alumni

Frederick Palmer, '93
Michael Angelo DeVitis, '10

Elected in 1917; Initiation Delayed

Charles Miner Miller, Jr., '17

Senior Class

Giles Mallalieu Bollinger
Robert Foote Brownell
Thomas Edward Colley
Dorothy Magdalene Evans
George Edward Hirst
Leonard Hyskell Hoover
Susan Jenkins
Florence Elizabeth Pappenhagen
Frank Merrill Parrish
Richard Floyd Rowley
Ralph Hartman Ware
Lillian Ruth Zearley

Annual Address, June 15, 1920
Frederick Palmer
"War As I Know It"

The Summer Session

The Summer Session of Allegheny College will be held from Monday, June 20, to Saturday, July 30. Instruction will be given every week day for the six weeks. For each course two term hours credit will be given, which will count toward a degree. For each entrance course one-half unit will be allowed, unless otherwise specified.

The plan of the summer school is to give work that will meet primarily the needs of the three following classes of students: (1) teachers who may desire a better training for their work in the class room, or who are preparing to pass examinations required for the various teachers' certificates; (2) college students who may desire to obtain advanced college credits or to remove conditions, and even high school students desiring to remove entrance conditions for admission to college; (3) any person who may desire to enter the course for the purpose of self-improvement. No requirements are necessary for admission, except that each professor will satisfy himself that the candidate is qualified to be admitted to his course.

Instruction will be given for the most part by the heads of the various departments. The courses will include the languages, the sciences, mathematics, history, psychology, and education.

A bulletin of the summer session detailing the various courses will be published about April 1, and will be sent on application. For information, address the Director,

C. F. ROSS,
Meadville, Pa.

Index

Page

Admission, Requirements for 35
Adviser System 117
Aid to Students 113
Athletics 122
Board of Trustees 7
Buildings and Grounds 18
Calendar 5
Clubs 118
Committees of the Faculty 15
Courses of Instruction:
- Astronomy 58
- Biology 59
- Chemistry 62
- Economics 67
- Education 69
- English Bible 70
- English Language and Literature 72
- French Language and Literature 75
- Geology 77
- Greek Language and Literature 79
- History 82
- Italian Language and Literature 85
- Latin Language and Literature 85
- Mathematics 88
- Philosophy 90
- Physics 93
- Political Science 95
- Public Speaking 97
- Spanish Language and Literature 99
- Surveying and Graphics 100
- Physical Training 101

Degrees 123
Degrees Conferred 1918 140
Electives, List of 104
Expenses 110
Faculty 11
Fees 109
General Purpose 34
Historical Sketch 17
Honor System 117
Honors 120
Honors, Award of 142
Hulings Hall 111
John C. Sturtevant Memorial Foundation 120
Laboratories and Museum 25
Library 31
Location 17
Phi Beta Kappa 144
Prizes 121, 143
Register of Students 124
Required Work 103
Requirements for Graduation 51
Scholarships:
- The Ballantyne Scholarship Fund 114
- High School Scholarships 114
- The Wright Scholarship Fund 114

Summary of Attendance 139
Summer Session 145

THE COLLEGE BULLETIN

SERIES XXI, No. 2 MARCH 1922

ALLEGHENY COLLEGE

FOUNDED IN 1815

CATALOGUE

1921-1922

CARNEGIE
LIBRARY

ONE HUNDRED SEVENTH YEAR

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1921-1922

MEADVILLE, PA.
1922

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED BI-MONTHLY
BY THE COLLEGE

SERIES XXI, No. 2
MARCH, 1922

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CATALOGUE FOR THE ACADEMIC YEAR 1921-22

AND ANNOUNCEMENTS OF COURSES FOR 1922-23

Contents

	Page
Calendar	5
Board of Trustees	7
Officers of Administration	10
Faculty	11
Committees of the Faculty	15
Historical Sketch	17
Buildings and Grounds	18
Laboratories and Museum	24
Library and Reading Room	29
General Purpose	32
Requirements for Admission	33
Requirements for Granduation	49
Courses of Instruction by Departments	56
College Fees	85
Living Expenses	86
Hulings Hall	88
Aid to Students	90
Clubs	94
John C. Sturtevant Memorial Foundation	96
Honors	96
Prizes	97-122
Physical Training	98
Athletics	99
Degrees	100
Register of Students	102
Degrees Conferred	119
Award of Honors	121
Phi Beta Kappa	123
The Summer Session	125
Index	126

1922

APRIL

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1923

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Calendar

1922

April 18, Tuesday, 8:00 a. m.—Recitations Resumed.

24, Monday—Founders' Day.

May 30, Tuesday—Memorial Day, a Holiday.

June 8-17, Second Term Examinations.

18, Sunday, 10:45 p. m.—Baccalaureate Sermon by President Fred W. Hixson.

5:00 p. m.—Vesper Service.

7:45 p. m.—Annual Sermon before the Christian Associations.

19-20, Monday and Tuesday—Entrance Examinations.

19, Monday, 2:00 p. m.—Class Day Exercises.

4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.

5:00 p. m.—Concert by College Band.

8:00 p. m.—Commencement Concert by the College Glee Club.

20, Tuesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.

11:00 a. m.—Senior Farewell to Buildings.

3:00 p. m.—Organ Recital.

8:00 p. m.—Phi Beta Kappa Address by the Reverend Lynn Harold Hough, D.D.

9:15 p. m.—Band Concert and Illumination of Campus.

21, Wednesday, 9:30 a. m.—Commencement Exercises.

1:00 p. m.—Alumni Luncheon.

6:00 p. m.—Fraternity Dinners.

26, Summer Session Begins.

Aug. 5, Summer Session Ends.

SUMMER VACATION

1922

Sept. 26 Tuesday—First Term Begins.

25-26 Monday and Tuesday—Entrance Examinations. Registration of New Students.

27 Wednesday—Registration of Old Students.

28 Thursday, 8:00 a. m.—Recitations Begin.

Nov. 1 Wednesday—Last Day for Submitting Subjects of Senior Theses.

Nov. 30-Dec. 2—Thanksgiving Holidays.

Dec. 8 Friday—Wakefield Oration Contest.

15 Friday, 12:00 m.—Recitations Close.

CHRISTMAS RECESS

1923

Jan. 3 Wednesday, 8:00 a. m.—Recitations Resumed.

18 Mid-year Meeting of Board of Trustees.

25-Feb. 2—First Term Examinations.

Feb. 2 Friday—First Term Ends.

6 Tuesday—Second Term Begins. Registration of Students.

7 Wednesday, 8:00 a. m.—Recitations Begin.

8 Thursday—Day of Prayer for Colleges.

22 Thursday—Washington's Birthday, a Holiday. The College Dinner.

Mar. 7 Tuesday—Last Day for Submitting Senior Theses.

9 Friday—Philo-Franklin Oration Contest.

23 Friday, 12:00 m.—Recitations Close.

SPRING RECESS

April 3 Tuesday, 8:00 a. m.—Recitations Resumed.

24 Tuesday—Founders' Day.

May 30 Wednesday—Memorial Day, a Holiday.

June 20 Wednesday—Commencement.

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Hulings Hall

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Cochran Hall

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Cochran Hall

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566 Smith Street

RICHARD F. ROWLEY, B.S.
Graduate Assistant in Physics
572 Smith Street

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Professor Lee — Dean Spalding
Professor Coleman

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Professor Elliott — Professor Ling
Professor Henke — Professor Schultz
Professor Church

Administration

The President — Professor Elliott
Professor Lee

Delinquencies

Dean Ross — Professor Henke
Professor Schultz

College Organizations

Professor Akers — Professor McClean
Professor Beiler

Social Functions

Professor Darling — Dean Ross
Dean Spalding

Fraternities

Professor Elliott — Professor Darling
Professor Henke — Professor Ling
Professor Akers — Professor Schultz
Professor Church — Professor McClean

Library

Professor Elliott — Professor Schultz
Professor Beiler

Graduate Instruction

Professor Darling — Professor Church

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PROFESSOR SWARTLEY PROFESSOR MCCLEAN
PROFESSOR DARLING PROFESSOR LITTELL

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PROFESSOR LEE PROFESSOR HAMMETT
PROFESSOR CHURCH

Publications

PROFESSOR SCHULTZ PROFESSOR ELLIOTT
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PROFESSOR ROSS PROFESSOR LING
PROFESSOR HENKE

Honorary Degrees

PROFESSOR ELLIOTT PROFESSOR ROSS
PROFESSOR DARLING

Description of the College

HISTORICAL SKETCH

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was the Reverend Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 the Reverend Martin Ruter, of the Pittsburgh Conference of the Methodist Episcopal Church, was elected to the presidency. The institution, while pronouncedly Christian, is conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage on account of his religious views.

LOCATION

Allegheny College is located in Meadville, Pennsylvania, on the main lines of the Erie and the Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of about fifteen thousand. It is an old, well-established town, with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town, it has few of the disadvantages of city life. It has most of the advantages of a city, such as paved streets, an effective sewerage system, an abundant

supply of wholesome water from driven wells, arc and incandescent lights, natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of wild and rugged ravines of exceeding beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of botany and geology.

BUILDINGS AND GROUNDS

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred fifty feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with cement walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings.

Bentley Hall bears the name of the Reverend William Bentley, D.D., of Salem, Massachusetts, who gave his valuable library to the college. The corner stone was laid in 1820. It consists of a central three-story building with tower, and two wings with massive

pillars. The building contains the administration offices of the college and recitation and lecture rooms. The third floor is devoted to the halls of the Philo-Franklin Forum and the musical societies.

Ruter Hall, which bears the name of the Reverend Martin Ruter, D.D., the second president of the college, is a substantial brick building erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the college. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the department of Mathematics and Surveying. The third floor, occupied by the department of Philosophy and Education, contains a lecture room, two laboratories, two offices, and a store room.

Hulings Hall, a four-story brick building, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It has since then been doubled in size. It is used as a home for young women and accommodates about one hundred fifty. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good, sanitary condition. It has recently been almost entirely refurnished. In addition to living accommodations the building contains five large society halls, the gymnasium for young women, and the rooms of the Young Women's Christian Association.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the department of Physics. It contains an amphitheater lecture-room, seating one hundred students; physical laboratories; and a base-

ment work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, recently completed, adjoins the athletic field, a door from the home and the visiting team rooms opening directly upon the quarter-mile cinder track. The building is complete in every respect and provides ample facilities for athletics and for the physical training of the student body in general.

The main floor has a clear space of sixty by ninety feet unobstructed by pillars, the roof being supported by steel trusses. The balcony is eight feet wide; upon it is a running track five feet in width. This track is banked for the training of distance men during the winter season. The main locker room is on the ground floor to the right of the entrance. It contains the best type of steel lockers and shower baths. From it a spiral stairway descends to the swimming pool. The pool is of the regulation length of sixty feet and is twenty-two feet wide and eight feet deep at its greatest depth. It is lined throughout with white tile, is well lighted by large windows with a southern exposure, and is filled with clear, filtered water.

In the rear wing of the building are the rooms for the home and visiting teams, the emergency room, the drying room, and the rooms for boxing and wrestling.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D. C. Newton, once a student in the college. It is a rock-faced stone building of fine architectural appear-

ance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburgh, and was built by the late Julius Neef, of Philadelphia. It has three manuals and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Reis Library, the gift of Mr. William E. Reis, of the class of 1869, was completed in 1902. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and the department seminar rooms. The interior appointments of the library are entirely in accord with the artistic character of the building.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., provision has been made for a college commons for young men. The building is constructed of brick, with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guest suite. The building not only provides first-class boarding accommodations, and at reasonable rates, but also constitutes a rallying center for the young men of the college. Apart from the dining room and the provisions for a dormitory, there are rooms for the Young Men's Christian Association, which are admirably adapted to their purpose. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

Alden Hall. This building is used by the department of Biology and Geology. Constructed of gray vitrified brick and terra cotta and roofed with red Spanish tile, it forms an imposing building sixty feet wide by one hundred twenty feet long, with the main entrance on George Street. The spacious halls lined with cases for the display of biological specimens, the rough sand finish of the walls, and the stained-oak wood-work and furnishings produce a most pleasing interior.

The building is divided on the first floor into a large lecture room in the east end, a library, professor's office, two private laboratories, and four advanced lab-

oratories; on the second floor into four large laboratories, two store rooms, an office, and a vivarium. The basement contains six rooms, which are used by the department for aquaria, work shop, store rooms, etc. The building is exceptionally well-lighted and is well-equipped with tables, lockers, apparatus, etc. Electric lights, water, and gas are supplied to all the rooms.

Carnegie Hall of Chemistry. This building is the latest addition to the group of college buildings and is devoted entirely to the use of the department of Chemistry. The erection of the building was made possible by a gift of $40,000 from the late Andrew Carnegie. This contribution was made with the understanding, however, that the trustees of the college add $10,000 to this sum for the building and, furthermore, that an additional $20,000 be raised for the purpose of providing a definite income for the maintenance of the building. The trustees not only met the terms of the gift but also immediately appropriated a generous sum to be used for the purchase of adequate equipment of the laboratories.

With the completion of this building late in the year 1915, the college came into possession of a $70,000 plant for chemistry, not including the equipment, which will amount to approximately $20,000.

The building is constructed of buff tapestry brick with artificial stone trimmings, in the Italian villa style. The roof is of red Spanish tile. The interior structure is entirely of pressed steel. Owing to the fact that it was deemed advisable for hygienic purposes to substitute heavy four-inch wooden floors for

cement, it is necessary to describe the building as of "slow-burning construction."

LABORATORIES AND MUSEUM

The Physical Laboratory. The department of Physics occupies Wilcox Hall of Science. It comprises a large, well-lighted lecture-room; a general laboratory; special laboratories for heat, light, and electricity; two dark rooms; the professor's office; and department library and store room. The lecture-room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratories. The department of Chemistry occupies the building known as Carnegie Hall of Chemistry. It consists of twenty-four rooms. On the first floor are located the offices of the instructing staff; reading room containing the department library; laboratories for electro-chemistry, quantitative analysis, metallurgical chemistry, physical chemistry, water analysis, gas and fuel analysis; and the hygienic laboratory. The balance room, which is provided with suitable piers, is also located on this floor. On the top floor are found separate laboratories for general chemistry, qualitative analysis, spectrum analysis, and organic chemistry; stock room, preparation room, combustion room, and the large lecture room. In the basement, which has been finished as the two upper floors with the exception of the cement floor, are located the laboratory for agricultural chemistry, small lecture room, stock rooms, and work-

shops. The desks in all the laboratories are provided with outlets for compressed air, electricity, A. C. and D. C., as well as gas, water, and vacuum pumps. The steam baths, which are supplied with high pressure steam, and the hydrogen sulphide outlets are located in glazed hoods, which are ventilated by forced draughts.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope, the objective of which was a gift of Mr. J. C. McDowell, of Pittsburgh, and was made by Brashear, of Allegheny, Pa. The graduated silver circles for this telescope were given by Mrs. Elizabeth Whiting, of Meadville. A seven and one-half inch instrument, made by Alvin Clark and Son, is also included in the equipment. Other equipment includes a transit, a chronometer, a sextant, and a sidereal clock. The clock is the gift of the children of Milton B. Goff, LL.D., in memory of their father, an alumnus and former professor of mathematics in the college. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by George N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute field work in astronomy which is of value to engineers. A chronograph, made by Gaertner, of

Chicago, and a break circuit attachment for the clock complete the new equipment, which will enable the department to offer to the student work that will be comparable with other observatories having a glass of like magnitude.

Surveying Apparatus. In Mathematics and Surveying all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in these subjects.

The Biological Laboratories occupy, with Geology, the entire building of Alden Hall.

The laboratory for general biology is on the second floor; it is well lighted by north windows and is well equipped with modern laboratory tables, individual lockers, compound microscopes, and other apparatus necessary to accommodate the large number of students who elect this work. Adjoining this general laboratory is a laboratory for advanced zoology, in which hundreds of specimens illustrating the various orders of animals are displayed. On the south side on this floor is the vivarium, in which are still-water aquaria and insect cages; in the northwest corner is a large laboratory for advanced botany and for economic biology; this laboratory contains the herbaria of the local flora, including fungi, mosses, ferns, and seed plants; also hundreds of microscopic slides for use in these courses.

On the first floor is the large lecture hall supplied with student chairs, a balopticon with several hundred slides, and numerous wall charts; adjoining this room are the professor's private laboratory and a pre-

parator's room in which demonstration material is prepared and stored. The bacteriological laboratory on this floor is equipped with lockers, two steam-pressure autoclaves, a multi-compartment electrically heated incubator, hot-air sterilizers, microscopes, etc. Adjoining this room is the laboratory for histology and embryology supplied with microtomes, multi-compartment paraffin oven, incubators, compound miscroscopes with oil-immersion lenses, and other necessary apparatus. The laboratory for plant physiology is well equipped with apparatus for studying soils, for seed testing, etc. Opening from this room are a conservatory for growing plants and also a dark room for photographic and experimental purposes. A library with the departmental books and magazines, an advanced bacteriological laboratory, professor's office, and a store room complete the rooms of the first floor.

In the basement is a room with running-water aquaria for fish and amphibians, and several cages for mice used for demonstration work in heredity; a work shop and store rooms are also in the basement. In the rear of the building is a plot of ground which is to be developed into a botanical garden.

The Geological Laboratory is on the second floor of Alden Hall. It contains laboratory tables equipped for blowpipe work and provided with lock drawers for each student. The room is large and well lighted, and is supplied with electricity, gas, running water, and cases for maps, minerals, rocks, and reagents. Other equipment for geological and mineralogical work consists of several hundred topographic maps and geologic folios, several thousand minerals and

rocks for both demonstration and working collections, crystal models, polarizing microscope, rock slides, a lantern with numerous slides, and a collection of fossils arranged in order of the geologic periods. This collection has been augmented materially by the gift of fossils from Montana by Mr. Walter M. Small and by the gift and exchange of fossils by others.

A large room in the basement is used for the preparation and storage of minerals, rocks, and fossils.

The geological library consisting of several hundred volumes of government, state, and other publications is in the department library on the first floor of Alden Hall.

The Psychological Laboratory occupies four rooms on the third floor of Ruter Hall, and several additional rooms are at the disposal of students for experimental work. It is equipped with tables and the apparatus required for elementary experiments.

The Natural History Collections are placed in the museum on the first floor of Ruter Hall and in Alden Hall. The geological and mineralogical collections are especially noteworthy and contain many valuable specimens, including several type forms. The more than eight thousand mineral specimens form an excellent collection and serve as a splendid basis for the course in mineralogy. The geological collections include the Smithsonian set of rocks and rock-forming minerals, besides numerous other specimens; while the paleontological collection includes the Ward casts and several original fossil forms. A collection of fossils, both local and from the glacial drift,

has been presented to the college by Mr. William Millward.

The biological collections are also important. The herbarium has been greatly increased so that it includes most of the local flora, which is rich and varied and furnishes an abundance of material for the courses in Botany. The zoological collection consists of several thousand specimens. It includes an excellent collection of shells, over two hundred mounted birds, several cases of ecomonic insects, mounted skeletons, and numerous jars of prepared and injected specimens illustrating the various orders of animals.

The museum is open to the public every Saturday from ten-thirty until noon while the college is in session. At other times visitors are admitted on application to the curator.

THE LIBRARY

The library contains about 50,000 printed productions, of which 38,500 are bound volumes. The remainder is made up of unbound periodicals and classified pamphlets. The additions by gift and purchase during 1920-21 were more than 1,500 volumes. A large number of reference books of a general and technical nature have been recently added to the good collection in the reference room, where 2,000 volumes of books "reserved" for use in the various departments are shelved with the dictionaries, encyclopedias, and general reference works. A dictionary card catalogue and periodical and government document indexes make the general resources and the latest periodical information easily available. The depart-

ments of Astronomy, Biology, Chemistry, Geology, and Physics have their libraries in the buildings where the work is done. The library possesses many rare old books from the Winthrop, Thomas, and Bentley foundations, and a number of valuable old Bibles.

The following moneys have been given to create funds for the support of the library:

Andrew Carnegie Fund, $25,000, the income of which is to be used for general maintenance.

Lucy Prindle Foote Fund, $5,000, a gift of Mrs. Lucy P. Foote, of Batavia, Ill.

William Davis Memorial Fund, $5,000, a gift of Mr. Henry L. Davis, of Philadelphia, Pa., in memory of his father, Mr. William Davis.

The Reverend Lynn Olin Mead Fund, $500, a gift of Mrs. Martha S. Mead in memory of her late husband, the Reverend Lynn Olin Mead.

Hattie Mae Thickstun Fund, $1,000, a gift of Mrs. E. Lina Thickstun in memory of her daughter, Hattie Mae Thickstun.

The library is housed in a modern building with large reading and study rooms. The classical and literary clubs have headquarters in the building, and rooms are set aside for advanced classes studying along special lines; the rules are such as will allow the widest use of the books with only such necessary restrictions as will secure the greatest good to the greatest number.

The library is a government depository and also receives the state publications. A book service is maintained with the Carnegie Library of Pittsburgh by which almost any book not available here may be secured quickly and at slight expense to the student. Exchange relations are maintained with several other libraries. The Meadville Theological School extends

library privileges to this college, and the students have access to the Meadville Public Library.

The library is open during the college year as follows:

Monday, 10:30-5:30; during the remainder of the week it is open from 8:00 to 5:30. Evenings, Monday to Friday, 7:00-9:00.

General Purpose

This institution is a college, not a university. It does not undertake to fit the student to enter a profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curriculums are based. Under the requirements for degrees about three-fourths of the subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered, enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for a profession.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with an much force as to those who enter professions. A college training does not teach a man how to do business successfully, but it does prepare him to do business rapidly, and to attain large success, if he has the requisite talent.

Requirements for Admission

The requirements for admission are stated in terms of units. *A unit is defined as a course of study that has been pursued for a school year of at least thirty-six weeks, with four or five periods per week of not less than forty minutes each. However, not less than one hundred twenty periods of sixty minutes each or their equivalent shall be counted a unit. But it is understood that in the major subjects for entrance five periods a week will be required.*

No science subject may be credited for entrance unless accompanied by satisfactory evidence of laboratory or field work. Exceptions may be made in the case of physiology.

Subjects accepted for entrance:

	Minimum.	Maximum.
English	3	4
Mathematics	2½	4
Foreign Language	4	7
Latin		
Greek		
French		
German		

Not less than two units in any language will be counted, unless that language is continued further in college.

History	1	4
Medieval and Modern	..	1
Ancient	..	1
English	½	1

United States	½	1
Civics	½	1
Drawing		
Mechanical	..	½
Free Hand	..	½
Science	1	4
Biology	½	1½
Chemistry	..	1
Physics	..	1
Physiography	½	1
Physiology	..	½
Geology	..	½
General Science	½	1

Not more than one unit of Biology may consist of General Zoology or Botany.

From the preceding list of units 15 must be offered for entrance to the freshman class. Of these, 11½ units are absolutely required and 3½ may be elected from any of the units in the foregoing list.

The 11½ required units are as follows:

English	3
*Mathematics	2½
Science	1
History	1
Foreign Language	4

For admission to A. B. Courses, two units must be in Latin; to B. S. Courses, there is no restriction concerning Latin.

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* Students may be admitted with 2 units of Mathematics, provided they offer 15 or more units; but they will be required to complete in college a half year of Mathematics in addition to the regular Science requirement.

DESCRIPTION OF UNIT REQUIREMENTS

ENGLISH.—The following is a definition of units one, two, three, and four, respectively, that may be offered as entrance credits in English:

(Unit one) Composition and Rhetoric.

(Units two and three) Selections from the list of required readings below.

(Unit four) A history of English or American literature, with additional readings from the English classics.

The study of English in school has two main objects, which should be considered of equal importance: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation, and the development of the habit of reading good literature with enjoyment.

The second object is sought by means of the reading and study of a number of books from which may be framed a progressive course in literature. The student should be trained in reading aloud and be encouraged to commit to memory notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

A few of these books should be read with special care, greater stress being laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions.

Examination—Candidates will have the option of taking either of two examinations; (1) a "Comprehensive" examination; (2) a "Restricted" examination, based in part on a prescribed list of books.

Each examination will be divided into two parts, one of which will be on grammar and composition, and the other on literature.

Restricted Examination—This examination will include:

A. Questions designed to test such knowledge and appre-

ciation of literature as may be gained by an intelligent reading of the books given in list A.

B. A test on the books in list B. This will consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of the salient qualities of their styles. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

When parts A and B of the restricted examination are taken at different times, each will include a test in grammar and composition.

Restricted List—

A. Books for Reading. Two books are to be selected from each of the five groups, except that for any book in Group I a book from any other may be substituted.

GROUP I. Classics in Translation. The Old Testament, comprising at least the chief narrative episodes of Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission, if desired, of Books I, II, III, V, XV, XVI, XVII; the Aeneid. The Odyssey and the Aeneid should be read in English translations of recognized literary excellence.

GROUP II. Drama. Shakespeare's The Merchant of Venice, As You Like It, Julius Caesar.

GROUP III. Prose Fiction. Dickens' A Tale of Two Cities; George Eliot's Silas Marner; Scott's Quentin Durward; Hawthorne's The House of Seven Gables.

GROUP IV. Essays, Biography, etc. Addison and Steele's The Sir Roger de Coverley Papers; Irving's The Sketch Book (about 175 pages); Macaulay's Lord Clive; Parkman's The Oregon Trail.

GROUP V. Poetry. Tennyson's The Coming of Arthur, Gareth and Lynette, Lancelot and Elaine, The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How

They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa, Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, and Coleridge's The Ancient Mariner; Scott's The Lady of the Lake.

B. Books for Study. The books provided for study are arranged in four groups, from each of which one selection is to be made.

GROUP I. Drama. Shakespeare's Macbeth, Hamlet.

GROUP II. Poetry. Milton's L'Allegro, Il Penseroso, and Comus; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley.

GROUP III. Oratory. Burke's Speech on Conciliation with America; Washington's Farewell Address, Webster's First Bunker Hill Oration, and Lincoln's Gettysburg Address.

GROUP IV. Essays. Carlyle's Essay on Burns, with a selection from Burns' Poems; Macaulay's Life of Johnson.

Comprehensive Examination—The purpose of this examination will be to enable the candidate to show that he has read, understood, and appreciated a sufficient amount of English literature. The paper will include some questions that cannot be answered except by candidates who are able to apply what they have learned to passages of literature which they have not read before. Suggestions for books to be read in preparation for this examination will be found in the list of recommended reading appended.

Comprehensive List—

GROUP I. Classics in Translation. The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther; the Odyssey, with the omission if desired, of Books, I, II, III, IV, V, XV, XVI, XVII; the Iliad, with the omission, if desired, of Books XI, XIII,

XIV, XV, XVII, XXI; the Aeneid. The Odyssey, Iliad and Aeneid should be read in English translations of recognized literary excellence.

GROUP II. Drama. Everyman; Shakespeare's Midsummer Night's Dream, Merchant of Venice, As You Like It, Twelfth Night, The Tempest, Romeo and Juliet, King John, Richard II, Richard III, Henry V, Coriolanus, Julius Caesar, Macbeth, Hamlet; Goldsmith's She Stoops to Conquer; Sheridan's The Rivals.

GROUP III. Prose Fiction. Malory's Morte d'Arthur (about 100 pages); Bunyan's Pilgrim's Progress, Part I; Swift's Gulliver's Travels (voyage to Lilliput and to Brobdingnag); Defoe's Robinson Crusoe, Part I; Goldsmith's Vicar of Wakefield; Frances Burney's Evelina; Scott's novels, any one; Jane Austen's novels, any one; Maria Edgeworth's Castle Rackrent, or The Absentee; Dickens' novels, any one; Thackeray's novels, any one; George Eliot's novels, any one; Mrs. Gaskell's Cranford; Kingsley's Westward Ho! or Hereward the Wake; Reade's The Cloister and the Hearth, or Griffith Gaunt; Blackmore's Lorna Doone; Lytton's The Last Days of Pompeii; Hughes' Tom Brown's Schooldays; Stevenson's Treasure Island, or Kidnapped, or Master of Ballantrae, or Dr. Jekyll and Mr. Hyde; Cooper's novels, any one; Poe, selected tales; Hawthorne's The House of the Seven Gables, or Twice Told Tales, or Mosses from an Old Manse; short stories by various standard writers, as Bret Harte, Aldrich, Page, Hale, and Barrie; Kipling's Kim, or Captains Courageous, or Jungle Books; Howells' The Rise of Silas Lapham, or A Boy's Town; Wister's The Virginian; Cable's Old Creole Days.

GROUP IV. Essays, Biography, etc. Addison and Steele's The Sir Roger de Coverley Papers, or selections from the Tatler and Spectator (about 200 pages); Boswell, selections from the Life of Johnson (about 200 pages); Franklin's Autobiography; Irving's Life of Goldsmith; Southey's Life of Nelson; Lamb, selections from the Essays of Elia (about 100 pages); Lockhart, selections from the Life of Scott (about 200 pages); Thackeray's Lectures on Swift, Addison, and Steele in the

English Humorists; Macaulay, any one of the following essays: Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederick the Great, Madame d'Arblay, Life of Johnson, Two Speeches on Copyright, History of England, Chapter III; Trevelyan, selections from the Life of Macaulay (about 200 pages); Ruskin's Sesame and Lilies, or selections (about 150 pages); Dana's Two Years Before the Mast; Lincoln, selections, including at least the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley, together with a brief memoir or estimate of Lincoln; Parkman's The Oregon Trail; Thoreau's Walden; Lowell's Selected Essays (about 150 pages); Holmes' The Autocrat of the Breakfast Table; Stevenson's An Inland Voyage and Travels with a Donkey; Huxley's Autobiography and selections from Lay Sermons, including the addresses on improving Natural Knowledge, A Liberal Education, and A Piece of Chalk; Washington's Farewell Address; Burke's Speech on Conciliation with America; Webster's First Bunker Hill Oration; Emerson's Manners, Self-Reliance; Burroughs' Selected Essays; Warner's In the Wilderness; Curtis' Prue and I, Public Duty of Educated Men; Hudson's Idle Days in Patagonia; Clemens' Life on the Mississippi; Riis's The Making of an American; Bryce's The Hindrances to Good Citizenship; a collection of essays by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers; a collection of letters by various standard writers.

GROUP V. Poetry. Palgrave's Golden Treasury (First Series), Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns; Palgrave's Golden Treasury (First Series), Book IV, with special attention to Wordsworth, Keats, and Shelley; Milton's L'Allegro, Il Penseroso, Comus, Lycidas; Goldsmith's The Traveler, and the Deserted Village; Pope's The Rape of the Lock; a collection of English and Scottish ballads, as, for example, some Robin Hood Ballads, The Battle of Otterburn, King Estmere, Young Beichan, Bewick and Grahame, Sir Patrick Spens, and a selection from later ballads; Coleridge's The Ancient Mariner, Christabel, and Kubla Khan; Byron's Childe Harold, Canto III or IV, and The Prisoner of Chillon; Scott's The Lady of the Lake, or Marmion; Macaulay's

The Lays of Ancient Rome, the Battle of Naseby, The Armada, Ivry; Tennyson's The Princess, or Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Browning's Cavalier Tunes, The Lost Leader, How They Brought the Good News from Ghent to Aix, Home Thoughts from Abroad, Home Thoughts from the Sea, Incident of the French Camp, Hervè Riel, Pheidippides, My Last Duchess, Up at a Villa, Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus"—, Instans Tyrannus; Arnold's Sohrab and Rustum, The Forsaken Merman, and Balder Dead; selection from American poetry, with special attention to Poe, Lowell, Longfellow, and Whittier.

MATHEMATICS.—Elementary Algebra. (One unit or one and one-half units.) The work in this subject should include the following: fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

A maximum of one and one-half units may be given when the time spent in preparing to meet this requirement be at least a year and a half. It is suggested that the work of the last half-year should be done late in the preparatory school course to insure a distinct and ready articulation with the required work of the freshman year in college. It is desirable that the student should come to his college work with well formed habits of neatness and accuracy, and that he have a ready knowledge of so much mathematics as he may have studied.

Plane Geometry. (One unit.) The general properties of rectilinear figures, similar polygons, and areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

Solid Geometry. (One-half unit.) The relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

Advanced Algebra. (One-half unit.) A somewhat more extended treatment in review of the important topics of elementary algebra; such as fractional and negative exponents, radicals, factoring, the theory of quadratic equations (including maxima and minima, simultaneous quadratic equations, ratio, proportion, the progessions, and the binomial theorem for positive integral exponents). In addition to these, the following topics should be included: permutations and combinations, undetermined coefficients, partial fractions, logarithms, theory of equations, including Horner's method, and the solution of numerical equations of higher degree.

Plane Trigonometry. (One-half unit.) The definitions and relations of the six trigonometric functions as ratios, proofs of formulas, especially those for the sine, cosine and tangent of the sum or difference of two angles, the relation between functions of an angle and those of double angles and half angles, inverse functions, and the solutions of right and oblique triangles with applications.

LATIN.—The following requirements, as proposed by the Commission on College Entrance Requirements in Latin, have been adopted by the college:

I. AMOUNT AND RANGE OF THE READING REQUIRED

1. The Latin reading required of candidates for admission to college, without regard to the prescription of particular authors and works, shall not be less in amount than Caesar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, Aeneid, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Caesar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and De Senectute) and Sallust (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Aeneid) and Ovid (Metamorphoses, Fasti, and Tristia).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS

1. **Translation at Sight.** Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be

suited to the preparation secured by the reading indicated above.

2. **Prescribed Readings.** Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias; and Vergil, Aeneid, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. **Grammar and Composition.** The examination in grammar and composition will demand thorough knowledge of all regular inflections, all common irregular forms, and ordinary syntax and vocabulary of the prose authors read in the school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

The credits given are as follows: elementary Latin book, such as Collar and Daniell or Bennett, including the reading of at least fifteen pages of easy connected prose, such as Viri Romae, one unit; Caesar with composition, one unit; Cicero with composition, one unit; Vergil, one unit.

GREEK.—(One unit.) First Greek book and at least six chapters of Book I of Xenophon's Anabasis.

(One unit.) Xenophon's Anabasis through Book IV. Xenophon's Anabasis, Books V, VI, and VII, or Xenophon's Hellenika, Books I and II, or twelve hundred lines of Homer. Prose composition based on the texts read.

(One unit.) Homer's Iliad or Odyssey, about three thousand lines. Thorough knowledge of poetic forms and prosody. About thirty pages of Attic prose with composition based thereon.

Throughout the work in Greek, emphasis should be laid on accurate knowledge of forms and the ordinary rules of syntax,

on the ability to read Greek aloud correctly and expressively, and on the ability to write rapidly and correctly in Greek simple English sentences based on the texts read.

GERMAN.—(One unit.) The first year's work should comprise: careful drill in pronunciation, dictation, memorizing of easy colloquial sentences, drill in the rudiments of grammar, i. e., the inflection of nouns, adjectives, pronouns, weak verbs, and the more usual strong verbs; the use of prepositions; the simplest rules of syntax and word order; simple exercises in conversation; and the reading of from seventy to one hundred pages of a graduated text from a reader or from editions of easy texts.

(One unit.) The second year's work should comprise: the reading of one hundred fifty to two hundred pages of literature in the form of easy stories and plays; a further study of syntax; conversation based on the text read; practice in the translation into German of easy variations upon the matter read, and also in off-hand reproduction, sometimes orally and sometimes in writing, of the substance of selected passages.

(One unit.) The work of the third year includes, in addition to the courses above, the reading of about four hundred pages of moderately difficult prose or poetry, with constant practice in giving, sometimes orally, sometimes in writing, abstracts, paraphrases, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of the article, and the cases, the uses of the subjunctive and the infinitive, complex sentence structure, and the uses of modal auxiliaries and participial constructions.

(One unit.) The fourth year of the study should be devoted to such works as Goethe's Iphigenie, Tasso, Hermann und Dorothea, Schiller's Wallenstein, standard prose of the grade represented by Freytag or Keller, some consideration of the chief lyric poets, prose composition, and some practice in theme writing.

FRENCH.—(One unit.) First year French should comprise the following: (1) careful drill in pronunciation, which should

be re-enforced by dictation and conversation in the class room; (2) study of grammar, including the more usual irregular verbs, such as the material found in Part I of Fraser and Squair's French Grammar; (3) regular practice in putting simple idiomatic sentences into French; (4) reading of about two hundred duodecimo pages of easy standard French, such as is to be found in the more popular French Readers, Malot's Sans Mamille, Bruno's Tour de la France, the stories of Erckmann-Chatrian, etc.

(One unit.) Second year French should include: (1) continued work in dictation; (2) memorizing of short poems; (3) further practice of turning English into idiomatic French; (4) more detailed study of grammar, such as is contained in Fraser and Squair, Part II; (5) reading of some three hundred pages of standard French of gradually increasing difficulty, such as the stories and plays of About, Daudet, Labiche, Mérimée, Sand, Scribe, etc.

(One unit.) Third year French should comprise the reading of some five hundred pages of more difficult French, including some masterpieces of French drama. Moreover, the student should be able to reproduce and paraphrase into idiomatic French parts of the works read. Texts should be selected from the works of Balzac, Beaumarchais, Corneille, Hugo, Marivaux, Molière, Musset, Racine, Vigny, Voltaire, etc.

ANCIENT HISTORY.—(One unit.) To the fall of the Roman Empire. Texts, such as those by Botsford, West, Myers, Breasted.

MEDIEVAL AND MODERN HISTORY.—(One unit.) Texts, such as those by Myers, Robinson.

ENGLISH HISTORY.—(One-half or one unit.) Texts, such as those by Cheyney, Larned.

AMERICAN HISTORY.—(One-half or one unit.) Texts, such as those by Channing, Fiske, McMaster, McLaughlin.

CIVICS.—(One-half or one unit.) Texts, such as those by Foreman, Fiske, Hart.

FREE HAND DRAWING.—(One-half unit.) The candidate must possess the ability to sketch, both in outline and with shading, simple objects, such as a house, a small piece of machinery, a simple landscape, a group of goemetrical figures, or an architectural ornament.

Certificates covering the above work, together with at least twenty specimen drawings, may be accepted.

MECHANICAL DRAWING.—(One-half unit.) The candidate must be able to make projections in plan and elevation of geometrical figures, and to prepare working drawings of simple architectural and mechanical subjects.

Certificates covering this work, together with at least twenty plates, illustrating the elements of descriptive geometry or of simple machine parts, may be accepted.

BIOLOGY.—Courses in zoology, botany, physiology, and hygiene will also be accepted under this head provided they meet the requirements here given. Satisfactory outlines of courses are given in the syllabus published by the New York State Educational Department.

a. (One unit.) A course in general biology extending throughout a year which shows the fundamental relationship between the animal and plant kingdoms and shows man's place in nature. A part of this course may deal with human physiology. The course must be accompanied with laboratory work, and the student, if required to do so, must be prepared to submit a laboratory note-book properly certified.

b. (One-half to one unit.) Courses in general zoology or general botany of at least one-half year in length. It is recommended that these be courses which deal with habits and ecological relationships as well as structure. Forms of animals or plants of local or of economic importance should be used as type forms as far as possible. Courses in zoology dealing solely with birds or insects will not be accepted. Laboratory work will be required in all cases and the student must be prepared to submit a properly certified note-book.

c. (One-half unit.) Physiology and Hygiene. This must be a one-half year course, and it is recommended that laboratory work be done with the course.

GEOLOGY.—(One-half unit.) The materials of the earth, the work of the atmosphere, ground-water, running water, snow and ice, the oceans and lakes, vulcanism and diastrophism; rock structures; the history of the geological periods from the Archæozoic to the present. Laboratory and field work are required, for which a note-book is to be submitted.

PHYSIOGRAPHY.—(One-half or one unit.) The origin and significance of the great relief features of the earth, and the topographic forms of the land; the earth as a planet; the atmosphere; the climate; weather predictions. Appropriate field and laboratory work must accompany the study of the text. Suitable text books are Salisbury's Briefer Course in Physiography, or Tarr's Physical Geography.

CHEMISTRY.—(One unit.) The candidate's preparation in chemistry should include: (a) The study of at least one standard text-book on general chemistry, to the end that the pupil may obtain a comprehensive view of the more important facts of elementary chemistry. (b) Individual laboratory note-books, certified by the candidate's instructor, must be presented.

PHYSICS.—(One unit.) The amount and extent of the class work required for entrance in physics may be indicated by such texts as Millikan and Gale's First Course, Hoadley's Elements, or Carhart and Chute's High School Physics. In laboratory the work should include at least thirty quantitative experiments supplementing the class work, performed by the student, and recorded in a carefully prepared note-book.

SPECIAL STUDENTS

Persons desiring to pursue studies in the college are, as a rule, required to be prepared to enter the freshman class as candidates for one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted

as special students and allowed to pursue selected studies. Every such person will be required to satisfy the faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

ENTRANCE EXAMINATIONS

Examinations for admission are held on Monday and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the first term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in all subjects.

ADMISSION BY CERTIFICATE

In place of examinations in studies required for admission to college, certificates will be accepted from approved first class high schools having a regular four years' course. Certificates will also be accepted in case of graduates of a three years' high school course, provided they pass entrance examinations in not less than three units additional to their certificates.

Certificates will not be accepted in the cases of students who are not graduates of the school from which the certificates are presented. *Students entering by certificate are considered as on trial until the completion of the mid-year examination, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.*

In all cases an examination in English is required, adapted to test the student's power of correct and idiomatic expression. No one will be accepted in Eng-

lish whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to have their schools placed on the approved list are invited to address the Registrar of the college.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should bring with him all laboratory note-books, exercise books, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismissal will be required from those who have been matriculated at other institutions.

Requirements for Graduation

Graduation requires the completion of one hundred twenty "term-hours" of work. "Term-hour" signifies a recitation period one hour weekly for a term of eighteen weeks.

The normal number of recitation periods is from fourteen to seventeen weekly. The Registrar is authorized to assign from twelve to seventeen. No student will be registered in more than seventeen or fewer than twelve without the approval of the Registration Committee. In no case will additional hours be assigned except on the basis of previous high-grade work.

All reports of students' work are made on the following scale: A signifies a final grade from ninety to one hundred per cent; B from eighty to eighty-nine per cent; C from seventy to seventy-nine per cent; D sixty to sixty-nine per cent.

Sixty per cent is required for passing.

The one hundred twenty term-hours required for graduation must be taken according to the schedules on the following pages.

Not more than thirty term-hours with a grade of D will be counted toward graduation.

The one hundred twenty term-hours of work must be of such a character as to make at least one hundred twenty "points" on the following scale:

One term-hour completed with a grade A counts three points.

One term-hour completed with a grade B counts two points.

One term-hour completed with a grade C counts one point.

Grades below C do not count for points.

The specified requirements of Physical Training in the freshman and sophomore years must also be completed.

In the senior year a thesis is required. This must be a paper not less than three thousand words in length showing ability to do individual work of high grade. The subject and outline must be approved at the outset by the head of the department in which the student is doing his major work, and the completed paper must be approved by the Thesis Committee.

FOR THE DEGREE OF BACHELOR OF ARTS

Freshman Year

Physical Training		
English Language I	3	3
First Foreign Language French, German, Greek, or Latin.	4 or 3	4 or 3
Mathematics I or Science*	4	4
Bible I	2	2
History I or Second Foreign Language French, German, Greek, or Latin. If two units of French have been offered for entrance, Spanish or Italian may be chosen.	3 or 4	3 or 4

Sophomore Year

Physical Training		
First Foreign Language (Continuing the language of the freshman year.)	4 or 3	4 or 3
History I (If not taken in the freshman year) or Second Foreign Language French, German, Greek, or Latin. If French I. or its equivalent has been completed, Spanish or Italian may be chosen.	3 or 4	3 or 4
Philosophy I, II	3	3
English Literature I	2	2
Mathematics I or Science*	4	4

Mathematics I or Science may be postponed to the junior year if strictly necessary in order to provide properly for the student's work in his major subject.

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* Candidates for the degree of Bachelor of Arts are required to elect fourteen term-hours from the following courses, chosen so as to include two departments: Astronomy I, Biology I, Chemistry I, Geology I, Mathematics I, Physics I. If Geology is chosen a year's work in high school or college Chemistry must have been completed. If Astronomy I is chosen Mathematics I or Physics I must have been completed.

Junior and Senior Years

I. **Major Subject.** Twenty-six term-hours or more in one subject selected from List I or List II below. The work completed in the subject in the freshman and sophomore years may be counted.

II. **Minor Subjects.** Twenty-six term-hours or more in two subjects selected from any of the lists below under the following conditions:

1. The major subject and the two minor subjects must be in three distinct departments.
2. Not less than ten hours may be taken in either minor subject.
3. Only one subject may be selected from List III.
4. If the major subject is in List I one of the minor subjects must be in List II or List III.
5. The work scheduled in the freshman and sophomore years may not be counted.
6. The selection of the minor subjects and the amount of work done in each must be approved by the head of the department in which the major work is done.

III. The number of hours necessary to complete the one hundred twenty required for graduation after the above stated requirements are met may be elected by the student from any subjects offered which he is qualified to pursue.

IV. A thesis is required of all seniors. See page 48.

LIST I	LIST II	LIST III
French	Bible	Astronomy
German	Economics and Business Administration	Biology
Greek	English Language	Chemistry
Italian	English Literature	Geology
Latin	History and Political Science	Physics
Spanish	Philosophy and Education	Surveying
	Mathematics	

FOR THE DEGREE OF BACHELOR OF SCIENCE

Freshman Year

	First Term	Second Term
Physical Training		
First Foreign Language (French, German, Greek, or Latin.)	4 or 3	4 or 3
English Language I	3	3
Bible I	2	2
Mathematics I	4	4
Biology I or Chemistry I or Physics I	4	4

Sophomore Year

Physical Training		
First Foreign Language (Continuing the language of the freshman year.)	4 or 3	4 or 3
History I	3	3
Biology I or Chemistry I or Physics I	4	4
Mathematics II or Natural Science	4 or 5	4 or 5

Junior and Senior Years

Required in the junior year:		
Second Foreign Language French, German, Greek, Latin. If French I. or its equivalent has been completed, Spanish or Italian may be chosen.	4 or 3	4 or 3
Philosophy I, II	3	3

Required before the end of the senior year:

I. **Major Subject.** Twenty-six term-hours or more in one subject selected from List I below. The work completed in the subject in the freshman and sophomore years may be counted.

II. **Minor Subjects.** Twenty-six term-hours or more in two subjects selected from the lists below under the following conditions:

1. Not less than ten hours may be taken in either minor subject.
2. Only one subject may be selected from List II.
3. The work completed in the subjects scheduled above may not be counted except courses in Natural Science or Mathematics II.
4. The selection of the minor subjects and the amount of work done in each must be approved by the head of the department in which the major work is done.

III. The hours necessary to complete the one hundred twenty required for graduation after the above stated requirements are met may be elected by the student from any subjects offered which he is qualified to pursue.

IV. A thesis is required of all Seniors. See page 48.

LIST I	LIST II
Biology	Astronomy
Chemistry	Bible
Mathematics	Economics and Business Administration
Physics	English Language
	English Literature
	French
	Geology
	German
	Greek
	History and Political Science
	Italian
	Latin
	Philosophy and Education
	Spanish
	Surveying

FOR THE DEGREE OF BACHELOR OF SCIENCE

Pre-Engineering Course

The program of study given below, including work in surveying, leads to the degree of Bachelor of Science. This is intended to be an introductory course in Civil and Mechanical Engineering as offered by the professional schools. It gives the student opportunity to follow certain lines of work in applied science with additional courses in languages which may enable him, on the completion of this course, to carry on his studies in the technical school and receive an engineering degree in a period not to exceed two years.

	First Term	Second Term
Freshman Year		
Physical Training		
Foreign Language (French, German, Greek, or Latin.)	4 or 3	4 or 3
English Language I	3	3
Bible I	2	2
Mathematics I	4	4
Surveying I (Descriptive Geometry)	4	4
Sophomore Year		
Physical Training		
Foreign Language (Continuing language of freshman year.)	4 or 3	4 or 3
Mathematics II	4	4
Physics I	4	4
Surveying II, III	4	4
Junior Year		
Chemistry I	4	4
Geology I	4	4
Physics III (Mechanics)	3	3
Surveying IV (Mechanical Drawing)	3	3
Senior Year		
Astronomy I	3	3
Economics I	3	3
Surveying V (Strength of Materials)	3	3
Surveying VI (Stresses and Structural Design)	4	4

Required before end of senior year a total for the four years of one hundred twenty term hours. See page 48.

A Thesis is required of all Seniors. See page 48.

The student is advised to elect in addition at least one of the following courses: Chemistry II, Mathematics III, Physics V, Surveying VII.

PRE-MEDICAL COURSE

The college strongly recommends to all students who anticipate the study of medicine a complete course leading to the Bachelor's degree. If a student has definite plans that permit him to spend but two years in college, the following course is suggested to fulfil the requirements for entrance to many medical schools:

Freshman Year

	First Term	Second Term
Physical Training		
English Language I	3	3
Foreign Language (French, German, Greek, or Latin).	4 or 3	4 or 3
Bible I	2	2
Biology I	4	4
Chemistry I	4	4

Sophomore Year

	First Term	Second Term
Physical Training		
Chemistry IA	3	3
Physics I	4	4
Foreign Language (Continuing language of freshman year).	4 or 3	4 or 3
Select 4 to 7 hours from		
Chemistry II	3	3
Biology IV	3	3
Mathematics I	4	4
English Literature I	2	2
History I	4	3
Philosophy I, II	3	3

If the student later decides to complete the course leading to the degree of Bachelor of Science he must complete as far as possible the omitted requirements of the freshman and sophomore years before doing advanced elective work.

Courses of Instruction

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as especially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ART

COURSE I—History and Appreciation of Art. An outline of the development of architecture, sculpture, and painting. Attention is given to the historical side of the subject but most importance is attached to discovering the fundamental qualities of art as a basis of the accepted canons of good taste and to developing correct and intelligent individual judgment of works of art.

Throughout the year, two hours.

COLLATERAL COURSES—Greek Architecture. See Greek VIII.

Greek Sculpture. See Greek IX.

Roman Topography and Architecture. See Latin V.

ASTRONOMY

COURSE I—General Astronomy. A study of the members of the solar system, the laws that govern their motions, and other phenomena. Also a study of the stars and nebulæ, with a discussion of the laws and theories of their relations.

Throughout the year, three hours.

COURSE II—Field Astronomy. Determination of time, latitude, and longitude, with the transit, sextant, and chronome-

ter. Open to those who have completed Trigonometry and Astronomy I.

Second term, two hours.

COURSE III—History of Astronomy. A course tracing the progress of the science from early times, including the work of the celebrated pioneers, down to the present day. Open to students who have completed Course I.

Second term, two hours.

BIBLE

COURSE I—New Testament History and Literature. This course will largely consist of a study of the personalities, activities, messages, and significance of Jesus and Paul. Some attention will be given to the political, moral, and religious background of their work, to the synoptic problem and to the making of the New Testament. Text-book, lectures, and collateral reading.

Throughout the year, two hours.

COURSE II—Old Testament History. The history of the Hebrew people from Abraham to the IVth century B.C., designed to familiarize the student with its general reconstruction reached by critical study. Constant reference will be made to its message for the present day. Text-book, lectures, and collateral reading.

First term, three hours.

Given in 1922-23.

COURSE III—The Bible as Literature. A study of the content, literary forms, quality, and character of distinctive sections of the Bible. Special attention will be given to the wisdom, poetic, and apocalyptic literature and to the origin of the Bible as a book. Text-book and lectures.

First term, three hours.

Given in 1923-24.

COURSE IV—Social Institutions and Ideals of the Bible. A study of Hebrew domestic, economic, political, and religious institutions as they develop from primitive times to the days of Jesus, followed by a study of the social teachings of the

Hebrew prophets and sages, and of Jesus. Text-book, lectures, and collateral reading.

Throughout the year, three hours.

Given in 1923-24.

Philosophy IX and X are a part of the work of this department, and a limited number of hours in Philosophy II, VII, and VIII may also be credited toward a major in this department.

BIOLOGY

COURSE I—General Biology. The first term of this course is devoted largely to the study of zoology, the second term to botany. Lectures and recitations, three hours a week; laboratory work, two hours a week.

Throughout the year, four hours.

COURSE II—Principles of Biology. A course which deals with evolution the first term and genetics and eugenics the second. Lectures and assigned readings. Open to all college students above freshman rank.

Throughout the year, one hour.

COURSE III—Advanced Botany. The structure and functions of the seed plants are considered the first term; the second term's work is largely systematic. Lectures and recitations two hours a week; laboratory and field work four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE IV—Advanced Zoology. The external and internal morphology of a series of animals is studied. The first term is devoted to the invertebrates, the second term to the vertebrates. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course I, or its equivalent.

Throughout the year, four hours.

COURSE V—Economic Botany. This course deals with the history, distribution, and uses of the various economic plants together with their diseases. Lectures and recitations,

two hours a week; laboratory work, two hours a week. Open to students who have completed Course I, or its equivalent.

First term, three hours.

COURSE VI—Economic Zoology. The major part of the course is devoted to the study of insects and birds, especially those of economic importance. Lectures and recitations, two hours a week; field and laboratory work, two hours a week. Open to students who have completed Course I, or its equivalent.

Second term, three hours.

COURSE VII—Bacteriology. The aim of this course is to acquaint the student with the general distribution and activities of the micro-organisms. A quantitative and a qualitative analysis for micro-organisms is made of air, soil, water, milk, etc. Lectures and recitations, one hour a week; laboratory work, four hours a week. Open to students who have completed Course I.

Throughout the year, three hours.

COURSE VIII—Human Anatomy and Physiology. A course which treats of the various structures and functions of the human body. Lectures and recitations, two hours a week; laboratory work, two hours a week. Open to students who have completed Course I.

First term, three hours.

COURSE IX—Histology. A course which treats of the structure of the cell and its various modifications into tissues. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course I, and preferably Course IV.

First term, four hours.

COURSE X—Vertebrate Embryology. This course includes the study of the development of the frog, chick, and a mammal from the time of fertilization of the egg until fully formed. Lectures and recitations, two hours a week; laboratory work, four hours a week. Open to students who have completed Course IX.

Second term, four hours.

COURSE XI—Sanitation and Hygiene. This course deals with those things which affect both public and personal health. Lectures and assigned readings, one hour a week. Open to all college students.

Throughout the year, one hour.

COURSE XII—Special Biology. This course is designed for students who are desirous of pursuing some line of biological work not included in the above courses. Open to students only by permission of the head of the department.

Hours to be arranged.

CHEMISTRY

COURSE I—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. Text-books: Lee's Text-book of Experimental Chemistry and Mellor's Modern Inorganic Chemistry. Lectures and recitations, two or three hours a week. Laboratory work, two to four hours a week.

Throughout the year, four hours.

COURSE I-A—Organic Chemistry. A preparatory course for those students who contemplate the study of medicine, sanitary science, or the household sciences. It is recommended to the general student also, as its survey of the more important classes of organic compounds, in the aliphatic and aromatic series enables the student to round out his conception of the field of chemistry.

The laboratory work (one afternoon per week) consists of a study of the more important reactions and syntheses of the different classes of organic compounds discussed in the lecture room. Prerequisite, Chemistry I or its equivalent.

Throughout the year, three hours.

COURSE II—Analytical Chemistry. Qualitative Analysis. The work of this course comprehends methods for the detection of substances in mixed solutions and solids, the separation of bases and acids, and the building up of a systematic course in chemical analysis. Text-books: Lee's Qualitative Chemical Analysis. The work is arranged so as to include a brief course in Spectrum Analysis. Laboratory and lectures,

six hours a week throughout the year. Open to those who have completed Course I, or its equivalent.

Throughout the year, three hours.

COURSE III.—Analytical Chemistry. Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric, physico-chemical, and volumetric processes as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc.

Electro-Chemical Analysis. A brief course in electrolytic methods of analysis is included in this year's work. Laboratory work, eight hours a week. Open to those who have completed Course II, or its equivalent.

Throughout the year, four hours.

COURSE IV—Gas and Fuel Analysis. This course is offered because of the analyst's frequent need of this kind of training. Lectures and laboratory work, four hours a week.

Throughout the year, two hours.

COURSE V—Theoretical Organic Chemistry. Advanced course. Course VI should be taken in conjunction with this course. Open to students who have completed Course II.

Throughout the year, two hours.

COURSE VI—Organic Preparations, Reactions, and Analysis. Laboratory work, six hours a week. Open to those who have completed or are taking Course V.

Throughout the year, three hours.

COURSE VII—Sanitary Analysis and Physiological Chemistry. The purpose of this course is to familiarize the student with the standard methods of making physical, chemical, and bacteriological examinations of air, water, milk, sewage, food, etc. This course is recommended to those who contemplate pursuing medicine or sanitary work as a profession. For example, blood, urine, and sputum are studied, with a view of emphasizing their diagnostic value; methods for testing efficiency of disinfectants are considered; etc.

Throughout the year, three hours.

COURSE VIII—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines.

(a) **Metallurgical Analysis,** which includes the analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke, and coal.

(b) **Food Analysis,** which includes the analysis of those substances essentially organic in nature, as foods, and the detection of adulterants.

(c) **Agricultural Chemistry,** which includes analysis of soils, fertilizers, dairy products, etc.

(d) Special courses in **Biological Chemistry** and **Toxicological Analysis** are offered to students preparing for the profession of chemistry or the study of medicine.

Hours elective.

COURSE IX—Physical Chemistry. This course aims to give the student a general knowledge of the principles of the subject by means of lectures, reading, and laboratory work.

Throughout the year, three hours.

COURSE X—History of Science and Development of Chemical Theory. Lectures, collateral readings, and preparation of theses. Open to students who have completed Course I.

Throughout the year, two hours.

COURSE XI—Industrial Chemistry. The work of this course has been outlined to meet the wants of those students who are particularly interested in the application of chemical processes to the commercial arts.

Throughout the year, three hours.

ECONOMICS AND BUSINESS ADMINISTRATION

COURSE I—Principles of Economics. A study of the fundamental laws of the subject with some of their practical applications to a number of present day economic problems: tariff,

taxation, foreign exchange, trusts, etc. This course is prerequisite to all other courses in the department except Course VII.

Throughout the year, three hours.

COURSE II—Corporation Finance. This course aims to develop the essential features of a sound financial structure. Among the subjects treated are: the evolution of the corporation, nature of corporate charters, methods of promoting and financing, combinations, insolvency, and reorganization.

First term, three hours.

Given in 1922-23.

COURSE III—Principles of Accounting. A study of the theory and technique of account construction. The problems involved in the construction and interpretation of income and balance sheets, the determination of profits, and adequate statements of the affairs of a going concern.

Second term, three hours.

Given in 1922-23.

COURSE IV—Money and Banking. A discussion of the theory, principles, and practical aspects of banking and currency. Emphasis is placed upon the relation of money and credit, functions of banks and bank credit, foreign exchange and gold movements, the operation of the Federal Reserve System.

First term, three hours.

Given in 1923-24.

COURSE V—Commerce and Marketing. A study of the development of both foreign and domestic commerce, with emphasis upon the organization, methods, and policies employed in the marketing of both raw materials and manufactured products.

Second term, three hours.

Given in 1923-24.

COURSE VI—Business Organization and Management. An introduction to the general principles of internal organization and management of business enterprises. Such topics as the

following are considered: organization of the managerial force, selecting and training employees, methods of remuneration and promotion, purchasing, selling, advertising, welfare work.

Throughout the year, two hours.

Given in 1922-23.

COURSE VII—Sociology. A study of social origins and social evolution, with particular reference to social laws and factors affecting social progress. Certain typical modern social problems, such as poverty and immigration, will be considered with special reference to systems of improvement. Open to all juniors and seniors without prerequisite.

Throughout the year, two hours.

Given in 1923-24.

EDUCATION

COURSE I—History of Education. The growth of educational practice and theory in the ancient, medieval, and modern world.

First term, three hours.

COURSE II—Principles of Secondary Education. The development, organization, methods, curriculums, and problems of secondary education. Open to those who have taken Philosophy I.

Second term, three hours.

Given in 1922-23.

COURSE III—Educational Psychology. The mind in childhood and adolescence, the learning process, mental measurements. Open to those who have taken Philosophy I.

Second term, three hours.

Given in 1923-4.

State Requirements—The courses offered in education, together with Philosophy I, II, III, IV, and VI, give the student opportunity to meet the requirements of the educational code of Pennsylvania for the Provisional Certificate for 1922.

ENGLISH LANGUAGE

COURSE I—General Composition. The principles of rhetoric, the study of examples of good English, and frequent practice in various kinds of writing. Conferences between instructor and student.

Throughout the year, three hours.

COURSE II—Advanced Expository Writing. The writing of formal and informal essays, book reviews, interpretative biography, editorials, etc. In this course and in Course III the student will be given frequent opportunity to follow his own bent in choice of subject and type of writing.

Throughout the year, two hours.

Given in 1923-24.

COURSE III—Advanced Narrative Writing. The writing of incidents, new stories, short-stories, one-act plays, etc.

Throughout the year, two hours.

Given in 1922-23.

COURSE IV—Argumentation and Debating. Analysis of current problems, weighing of evidence, and principles of clear thinking. Preparation of briefs. Debates.

Throughout the year, two hours.

Given in 1922-23.

COURSE V—Theory and Practice of Speech Composition. Study of models of various types of addresses. Frequent practice in the writing and the delivering of speeches, with emphasis upon thought and composition as well as upon delivery. Extemporaneous speaking.

Throughout the year, two hours.

Given in 1923-24.

COURSE VI—Anglo-Saxon and History of the English Language. Translation and lectures. The relation of Modern English to earlier forms of the language is constantly emphasized.

Throughout the year, two hours.

Given in 1923-24.

COURSE VII—Teaching of High School English. Discussion of the content of the high school course in English, phases deserving major emphasis, methods of teaching, correction of papers, etc. Prospective teachers of English will find the course of value.

First term, two hours.

Given in 1922-23.

ENGLISH LITERATURE

COURSE I—Survey of English Literature. A comprehensive view of English literature from Chaucer to the present time. Lectures and recitations on assigned readings.

Throughout the year, two hours.

COURSE II—American Literature. A general view of writings in America from the first colonial period to modern times followed by a detailed study of several of the more important literary movements. Lectures, recitations, and reports on assigned readings.

Throughout the year, three hours.

Given in 1922-23.

COURSE III—Shakespeare. A detailed study of one or two plays, and a rapid reading of several others.

First term, two hours.

Given in 1922-23.

COURSE IV—Elizabethan Drama. A historical survey of the development of the English drama from its origin, through the Miracle Plays, Moralities, and Interludes, to the closing of the theatres in 1642.

First term, two hours.

Given in 1922-23.

COURSE V—English Drama after 1642. A historical study of the drama in England from the Restoration to modern times, including a discussion of the Heroic Drama, the reform of the drama in the eighteenth century, pantomime and ballad

opera, the sentimental drama, and the growth of farce and melodrama.

Second term, two hours.

Given in 1922-23.

COURSE VI—Contemporary Drama. A study of the new dramatic literature, its technique, aims, and problems, beginning with the later plays of Ibsen.

Second term, two hours.

Given in 1922-23.

COURSE VII—English Literature of the Seventeenth Century. A study of the non-dramatic literature of the seventeenth century, beginning with the work of Francis Bacon and continuing through the age of Dryden.

First term, three hours.

Given in 1923-24.

COURSE VIII—The Age of Pope. English literature from the death of Dryden to the death of Pope.

First term, three hours.

Given in 1923-24.

COURSE IX—The Age of Johnson. English literature from the death of Pope to 1800.

Second term, three hours.

Given in 1923-24.

COURSE X—English Romantic Poets. A preliminary view of the romantic movement followed by a detailed study of the poetry of Wordsworth, Coleridge, Byron, Shelley, and Keats.

Second term, three hours.

Given in 1923-24.

COURSE XI—Tennyson and Browning. All the principal poems of both writers.

Throughout the year, three hours.

Given in 1922-23.

COURSE XII—The Development of the Novel. Class-room lectures and a rapid reading of a number of representative novels.

First term, two hours.

Given in 1923-24.

COURSE XIII—The Short Story in English. A history of the development of the short story in England and America followed by a critical examination of the modern short story.

Second term, two hours.

Given in 1923-24.

COURSE XIV—Nineteenth Century Essayists. The development of the English essay during the nineteenth century. Particular attention given to Lamb, Carlyle, Ruskin, Arnold, and Stevenson.

First term, two hours.

Given in 1923-24.

COURSE XV—Modern Essays. A study of contemporary prose, both British and American.

Second term, two hours.

Given in 1923-24.

COURSE XVI—Literary Criticism. A course in literary problems and appreciation. Open only to seniors.

Throughout the year, two hours.

FRENCH LANGUAGE AND LITERATURE

COURSE I—Elementary French. The New Fraser and Squair French Grammar; careful training in pronunciation; oral and written exercises; dictation; reading of easy prose. This course does not count toward a major or minor.

Throughout the year, four hours.

COURSE I-A—Elementary French. Designed especially for students who enter college with one year of secondary school French. The course covers practically the same ground as the

last semester of French I and the first semester of French II. Students completing this course are admitted to French II-A.

Throughout the year, four hours.

COURSE II—Second-Year French. Continued practice in composition and conversation. Reading of modern authors such as Mérimée, Daudet, Augier, Bazin, Bordeaux, etc.

Throughout the year, four hours.

COURSE II-A—Intermediate French. Designed especially for students who enter college with three years of secondary school French and for those who have completed French I-A. The course covers practically the same ground as the second semester of French II and the first semester of French III.

Throughout the year, three hours.

COURSE III—Intermediate French. Continuation of conversation and composition based on Koren's French Composition. Reading of more difficult French prose and poetry. Assigned readings in modern French literature.

Throughout the year, three hours.

COURSE IV—French Literature in the First Half of the Nineteenth Century. A study of the principal authors of this period: Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Sainte-Beuve, Balzac. Prerequisite, French III or French IIA.

Throughout the year, three hours.

Given in 1923-24.

COURSE V—French Literature after 1850. A study of the literary movements in France after the decline of Romanticism, with especial reference to the novelists and dramatists. Outside reading will be required in addition to rapid reading from a number of the authors of this period. Prerequisite, French III or French IIA.

Throughout the year, three hours.

Given in 1922-23.

COURSE VI—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, La

Bruyère, Pascal, Bossuet, Fénelon, Mme. de Sévigné, Mme. de La Fayette. Prerequisite, French III or French IIA.

Throughout the year, three hours.

COURSE VII—Advanced Composition and Teachers' Course. Careful review of syntax with constant practice in composition. A survey of the general principles of phonetics, and their application to French pronunciation. Discussion of methods of teaching French. Prerequisite, French III.

All students who expect to teach French should take this course. Those using French for the major subject are required to do so.

Throughout the year, two hours.

COURSE VIII—Outlines of the History of French Literature. A general course in French literature from its beginning to the present time. Lectures and assigned readings. Required of all students using French for the major subject. Prerequisite, French III.

Throughout the year, one hour.

GEOLOGY

COURSE I—General Geology. This course treats of the history of the earth together with its structure and physiography. Recitations, three hours a week; field and laboratory work, two hours a week.

Throughout the year, four hours.

COURSE II—Advanced Physiography. This course deals with the physiography of the lands and the oceans, and with the atmosphere in relation to climate and weather conditions. Recitations, two hours a week; laboratory and field work, two hours a week.

First term, three hours.

COURSE III—Commercial and Regional Geography. In this course a study is made of the geographic basis of commerce and commercial products. Recitations, three hours a week.

Second term, three hours.

COURSE IV—Mineralogy. Crystallography, blowpipe analysis, and determinative mineralogy are the features of this course. Open to students who have completed a year in chemistry.

First term, three hours.

COURSE V—Paleontology. This course includes the study of animal and plant fossils attention being given to structure and distribution. Recitations, two hours a week; laboratory and field work, two hours a week. Open to students who have completed Course I and Biology I.

Second term, three hours.

GREEK LANGUAGE AND LITERATURE

COURSE I—Elementary Greek. Allen's First Year of Greek; selections from Xenophon and other Attic authors.

Only in exceptional cases will this course, without further work in the subject, be counted toward a degree.

This course may not be taken to remove entrance conditions.

Throughout the year, five hours.

COURSE II—Homer. The Iliad or the Odyssey. Detailed study of two books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Throughout the year, four hours.

COURSE III—Lysias. Selected Orations.

Plato. The Apology and Crito and selections from the Phaedo. Outline of the history of Greek philosophy.

This course is made the basis of the study of historic Greek life and institutions.

Throughout the year, three hours.

COURSE IV—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus

Tyrannus, Euripides' Iphigeneia in Tauris, and Aristophanes' The Frogs.

Throughout the year, three hours.

COURSE V—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings.

Throughout the year, three hours.

COURSE VI—Greek Testament. A close study of a portion of the New Testament, usually the Gospel of Mark. Familiar and accurate knowledge of vocabulary, syntax, and idioms is aimed at. Acts and some of the shorter Epistles are read more rapidly to develop facility in grasping the thought of the original. Much stress is laid on sight reading and on accurate but untraditional translation. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II or Course III.

Throughout the year, two hours.

Given in 1922-23.

The following courses are open to students who have completed Course I and to a limited number of juniors and seniors who have no knowledge of Greek.

COURSE VII—Greek Literature in English. Survey of the field from Homer to the Roman period. Lectures, text-book work, and English readings. Much attention is given to the development of literary forms. The growth of the Greek drama and its influence on modern drama are closely studied.

Throughout the year, two hours.

Given in 1922-23.

COURSE VIII—Classical Archeology. Egyptian, Babylonian, and Assyrian art. Mycenaean civilization. Greek vase painting. Greek architecture.

Throughout the year, two hours.

COURSE IX—Classical Archeology. Greek Sculpture.

Throughout the year, two hours.

Given in 1922-23.

Courses VIII and IX are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required.

COURSE X—Greek History from the Homeric period to the Roman conquest. The origin and development of social and political institutions among the Greeks, their experiments in popular government, their contribution to medieval and modern civilization. Modern contrasts and parallels are emphasized.

Throughout the year, two hours.

Given in 1923-24.

HISTORY

The completion of Course I is required for admission to all other courses in History. Attention is also called to other prerequisites attached to various advanced courses.

COURSE I—History of Western Europe from the Fourth Century A. D. to the Present Time. This is a prerequisite for all other courses in History, and for Political Science III, IV, VI, VII, VIII.

Throughout the year, three hours.

COURSE II—European History 1815-1920. Open to all who have completed History I.

Throughout the year, three hours.

Given in 1922-23.

COURSE III—The Renaissance and the Reformation. Open only to juniors and seniors.

Throughout the year, three hours.

Given in 1923-24.

COURSE IV—The History of England and the British Empire. Open only to juniors and seniors.

Throughout the year, three hours.

Given in 1923-24.

COURSE V—American History, 1492-1789. Open to all who have completed History I.

Throughout the year, three hours.

Given in 1923-24.

COURSE VI—American History, 1789-1920. Open to all who have completed History I.

Throughout the year, three hours.

Given in 1922-23.

COURSE VII—Methods of Historical Investigation. This course contributes directly to the preparation of the thesis required for graduation. Open only to seniors, and by special permission to juniors who have taken work in the department for two years (four terms).

Throughout the year, two hours.

Given in 1922-23.

COURSE VIII—Outline of Church History. Open only to juniors and seniors.

Throughout the year, three hours.

Greek History—Course X in the Department of Greek.

Roman History—Course III A and B in the Department of Latin.

ITALIAN LANGUAGE AND LITERATURE

COURSE I—Elementary Italian. An accurate study of the pronunciation and grammar; conversation based on an assigned vocabulary; dictation, memory exercises, and easy composition. Reading of modern short stories and selections from contemporary periodicals. Prerequisite, French I or its quivalent.

Throughout the year, three hours.

COURSE II—Intermediate Italian. Syntax; continued practice in dictation, composition, and conversation, based on the texts read. The literary work includes a general survey of the Italian literature from its origin to the present time, special

emphasis being laid on Dante and his epoch, and on the leading authors of today.

Throughout the year, three hours.

LATIN LANGUAGE AND LITERATURE

LATIN A—Cicero. Selected orations. May be accepted as one unit for entrance.

First term, five hours.

LATIN B—Vergil. Aeneid, Books I-VI. May be accepted as one unit for entrance.

Second term, five hours.

COURSE I—Cicero, De Senectute or De Amicitia. Selections from Pliny's Letters, or selections from Cicero's Letters. Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation.

Throughout the year, four hours.

COURSE II—Horace, selected Odes and Satires.

Especial attention is directed to Horace's life and philosophy, and to as much of the history and customs of the period as sheds light on the subject matter.

Readings from Latin Verse of all periods, including one play of Terence. History of Latin literature.

Throughout the year, three hours.

COURSE III-A—Roman History. A study of the development of the Roman Constitution and political institutions, the growth of the democratic movement, and Rome's contribution to the civilization of later periods. May be taken without Latin preparation and may be counted in the department of History.

Throughout the year, two hours.

B—Latin readings and investigations parallel to and illustrative of the material in Latin III-A.

Throughout the year, one hour.

Open to all who have completed or are taking Course II. Given in 1923-24.

COURSE IV—Roman Private Life. Lectures on Roman Private Life with collateral illustrative readings in Latin.

The course alternates with Course III. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1922-23.

COURSE V—Roman Topography and Architecture. A lecture course which does not limit the field strictly to the topography of Rome, but attempts to give a general knowledge and appreciation of the city of Rome, its architecture, monuments, history, and customs, as well as its contribution to modern civilization and life.

May be elected without previous preparation in Latin.

Throughout the year, two hours.

Given in 1923-24.

COURSE VI—Advanced Latin Composition. Individual work designed primarily for those who look forward to teaching or to graduate work. One hour class work and one private conference weekly.

All students expecting recommendations to teach Latin should take this course. Open to all who have completed or are taking Course II.

Throughout the year, two hours.

Given in 1922-23.

MATHEMATICS

COURSE I—College Algebra and Trigonometry. A continuation of the algebra required for entrance. Graphical representation of equations; mathematical induction; binomial theorem; theory of equations; and determinants. Plane and Spherical Trigonometry.

Throughout the year, four hours.

COURSE II—Analytic Geometry and Calculus. An elementary treatment of the fundamentals of analytic geometry of

two and three dimensions, and of differential and integral calculus.

Throughout the year, four hours.

COURSE III—Advanced Calculus. This course is a continuation of Course II.

Throughout the year, three hours.

COURSE IV—Differential Equations. An elementary course arranged for students in engineering and physics, and for those who intend to study advanced mathematics.

An elementary knowledge of integral calculus is a prerequisite to this course.

Throughout the year, three hours.

COURSE V—Mathematics of Finance. The operation of interest in relation to finance, in particular, to the amortization of debts, to the creation of sinking funds, to the valuation of bonds, to the accumulation of funds in building and loan associations, and to the elements of life insurance.

Throughout the year, three hours.

PHILOSOPHY

COURSE I—General Psychology. The structure and the functions of consciousness. Prerequisite for all other courses in the department. Lectures, recitations, class-room demonstrations, and a limited number of experiments.

First term, three hours.

COURSE II—Ethics. An introductory study of the moral life from the standpoint of its development, theory, and practice.

Second term, three hours.

COURSE III—Experimental Psychology. Experiments in the psychology of the special senses, attention, memory, feeling, fatigue, reaction-time, etc.

Throughout the year, two hours.

COURSE IV—Social Psychology. An examination of the social implications of mental development in the individual and the race.

First term, two hours.

COURSE V—Introduction to Philosophy. An introductory survey of the field of philosophy with specific reference to the great historic systems.

First term, three hours.

COURSE VI—Logic. Elementary inductive and deductive logic.

Second term, three hours.

COURSE VII—History of Philosophy. The growth of philosophic thought from Thales to Hegel, considered in its relation to the development of science, and to religious, social, and political conditions.

Throughout the year, two hours.

COURSE VIII—Current Philosophical Tendencies. The standpoints of outstanding present-day philosophers. The systems considered vary from year to year.

Second term, two hours.

COURSE IX—Philosophy of Religion. A study of the more important religions of history to secure material of value for illustrating or reaching conclusions concerning the origin and nature of religion; the character of such primitive features as fetichism, totemism and magic; the causes of variation in religion; its relation to ethics; its influence upon social ideals and institutions; the universal elements in all religion; and the ultimate truth of religion. Should be preceded by Course V and Bible IV. Text-books, lectures, papers, and collateral reading.

Throughout the year, three hours.

COURSE X—Christian Fundamentals. The study of such questions as the nature of Christianity, of sin and its transmission, of inspiration, the conception of God, personal and

social salvation, eschatology, and the atonement, with the emphasis largely upon the social point of view.

Second term, three hours.

PHYSICS

COURSE I—College Physics. This course aims to present the fundamental principles of physics, develop its laws, and acquaint the student with the relation between energy and matter. These principles and laws are presented in the study of mechanics, and their applications to heat, sound, light, and magnetism and electricity follow. Lectures and recitations, three hours a week. Laboratory work, two hours.

Throughout the year, four hours.

COURSE II—A Problem Course to supplement Course I. Open only to students who are pursuing Course I.

Throughout the year, one hour.

COURSE III—Elementary Analytic Mechanics. A course which deals with the mathematical side of physics. Special attention is given to the solution of problems in statics, kinematics, and kinetics, and other problems related to technical as well as advanced work in physics. Physics I and Mathematics II are prerequisites.

Throughout the year, three hours.

COURSE IV—Physical Measurements. A lecture and laboratory course involving the adjustment and use of instruments of precision. The significance and accuracy of results, together with the sources of errors and means of their elimination are carefully discussed. Open to students who have completed Course I.

Throughout the year, three hours.

COURSE V—General Physics. A course in theoretical physics dealing principally with mechanics, heat, the properties of vapor and gases, the theory of solutions, the kinetic theory of gases, thermo-dynamics, magnetism and electricity. Lectures, experimental demonstrations, and recitations, two

hours a week. Laboratory work, four hours a week. Open to students who have completed Course I and Mathematics II.

Throughout the year, four hours.

COURSE VI—History of Physics. Open as a free elective to students who have completed Course I.

Throughout the year, two hours.

COURSE VII—Electrical Measurements. Lectures and recitations, supplemented by laboratory work, designed to acquaint the student with the practical methods of measuring electrical quantities. One hour, lecture and recitation; four hours, laboratory. Open to those who have completed Physics I and Mathematics I.

First term, three hours.

COURSE VIII—Direct and Alternating Currents. A study of the production, control, and distribution of direct and alternating currents. One hour, lectures and recitation, four hours; laboratory work. Open to students who have completed Physics VII.

Second term, three hours

OTHER COURSES. For students desiring to specialize in physics, courses dealing with any of the subjects treated under this department will be given as the work is demanded.

POLITICAL SCIENCE

The completion of Political Science I and of History I is required for admission to courses in this department numbered higher than II. Other prerequisites are given in connection with various courses.

COURSE I—American Government and Politics. This is a prerequisite for all other courses in Political Science.

First term, three hours.

COURSE II—American Municipal Government. With incidental study of certain features of municipal governments in Europe.

Second term, three hours.

COURSE III—European Governments.
First term, three hours.

COURSE IV—Principles of Political Science.
Second term, three hours.
Given in 1923-24.

COURSE VI—International Law.
Throughout the year, two hours.
Given in 1922-23.

COURSE VII—European Diplomacy.
First term, two hours.
Given in 1923-24.

COURSE VIII—American Diplomacy.
Second term, two hours.
Given in 1923-24.

COURSE IX—Development of Legal Institutions.
Second term, three hours.
Given in 1922-23.

Methods of Historical Investigation—History VII. This may be counted as work in Political Science for those whose thesis comes within this department.
Throughout the year, two hours.

PUBLIC SPEAKING

COURSE I—Extemporaneous Speaking. This course aims to develop directness, earnestness, and dignity in public address. During the first term a careful study is made of the psychological principles which govern effective speaking. Sample speeches are studied, and assigned passages are delivered by each student. During the second term the same work is continued but more extemporaneous work is required.

Elective for all who are taking or have completed English Language I.
Throughout the year, one hour.

COURSE II—Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation. A systematic study of voice culture is begun in this course. The "Natural Tone Drill" is the system used. A study of the principles underlying gesture work is also required.

Elective for all who are taking or have completed English Language I.

First term, two hours.

COURSE III—The study of voice culture is continued in this course in a more advanced and technical way. Dramatic readings from Shakespeare and interpretative studies of the masterpieces of literature will be given each student.

Elective for all who have completed Course IV.

Second term, two hours.

COLLATERAL COURSES—Argumentation and Debating. See English Language IV.

Theory and Practice of Speech Composition. See English Language V.

SPECIAL WORK for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

SPANISH LANGUAGE AND LITERATURE

COURSE I—Elementary Spanish. Hills and Ford's First Spanish Course; an informative Spanish reader dealing with the history, geography, customs, and daily life of Spain and Spanish America; a piece of Spanish literature of moderate difficulty, such as Alarcon's El Capitan Veneno. Prerequisite, French I or its equivalent.

Throughout the year, three hours.

COURSE II—Intermediate Spanish. A study of modern Spanish novels and dramas. Composition work is continued with some such text as Umphrey's Spanish Prose Composition.

Throughout the year, three hours.

COURSE III—Classical Spanish Literature. Selected works of Cervantes, Calderon, Lope de Vega, etc.

Throughout the year, three hours.

SURVEYING, GRAPHICS, AND APPLIED MECHANICS

COURSE I—Descriptive Geometry and Elementary Mechanical Drawing. A study of the representation of lines, planes, surfaces, and solids, and of their relations; tangencies, intersections, and developments; curved surfaces; shades, shadows, and perspective.

Throughout the year, four hours.

COURSE II—Land Surveying. An elementary study of surveying methods and instruments. The recitations are supplemented by lectures. The field work affords practice in the use of the instruments used in surveying.

First term, three hours.

COURSE III—Railroad Surveying. The field work includes the laying out of curves, turnouts, etc., in addition to making the reconnaissance, preliminary and location surveys, necessary computations and maps.

Second term, three hours.

COURSE IV—Engineering Drawing. The practical application of Descriptive Geometry to problems in machine design, structural detailing, etc. Orthographic projection is taught as a means of expression.

Throughout the year, three hours.

COURSE V—Strength of Materials. A study of the physical properties of building materials with special reference to the design of beams and columns. Prerequisite, Mathematics II and Physics III.

Throughout the year, three hours.

COURSE VI—Structural Design. A study of the stresses in and design of framed structures such as roof trusses and bridges. Prerequisite, Physics III.

Throughout the year, four hours.

COURSE VII—Highway Surveying. A study of the methods and materials of modern highway construction and maintenance, supplemented by lectures and papers prepared from government reports and current periodicals.

Second term, three hours.

Given in 1922-23.

General Information

COLLEGE FEES

All students pay a fee of $200 a year, one-half of which is payable at the opening of each term. This includes incidental, library, and gymnasium fees.

In the laboratories the following fees are charged each term:

Astronomy, I, II	$ 2.00
Astronomy IV	7.50
Biology I	3.00
Biology III	4.00
Biology IV	5.00
Biology V, VI, VIII	3.00
Biology VII	7.50
Biology IX, X	7.50
Chemistry I, I-A	4.00
Chemistry II, III, VI, VII, VIII	7.50
Chemistry IV, IX	5.00
Education III	1.00
Geology I, II, V	2.00
Geology IV	6.00
Philosophy III	1.50
Physics I	3.00
Physics IV, V, VII, VIII	5.00
Surveying II, III	3.00

In addition, breakage of material is charged at actual cost.

By vote of the students the following additional annual fees are collected by the Treasurer, one-half at the beginning of each term:

Athletics for Men	$10.00
Athletics for Women	6.00
Debate and Oratory	1.00
College Publications	5.50

For these fees, students receive free admission to all games and contests held under college auspices, and free subscription to all college publications, including the college annual.

All college fees are due on the day of registration. Temporary permits are issued only to those who receive scholarships or loans. All financial arrangements should be made before the student comes to Meadville.

No student is admitted to class until all fees are paid or satisfactorily arranged for. No fees are returned except in case of sickness. If a student leaves college before the middle of the term because of illness one-half of the term fee may be refunded.

LIVING EXPENSES FOR MEN

The young men of the college board in Cochran Hall, in fraternity chapter houses, or in private families. Freshmen are required to board at Cochran Hall. The cost of board in Cochran Hall is as follows:

Full Board ..... $240 per year
Lunches and Dinners only ..... 200 per year
For regular absence from more than three meals each week, two-thirds proportionate rebate is made.

This rate is subject to change without notice. The cost in chapter houses and private families is, as a rule, ten to twenty-five per cent. more. One-half the room rent in Cochran Hall is due and payable at the opening of the first term and one-half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half-year's payment, but is not returnable in case the student leaves college. The

rate for rooms varies from fifty to one hundred dollars a year for each student. All rooms are to be surrendered not later than noon on Monday of Commencement Week. Residents in the men's dormitory make a deposit of $10.00 at the beginning of the year to cover damage to building. The unused portion is returned at the end of the year. The amount for board in Cochran Hall is due as follows: $60.00 at the opening of the year; $60.00 on the second Monday in November; $60.00 at the opening of the second term; $60.00 on the third Monday in April. If the student has a room-mate, the necessary expenses for a year will fall within the following estimates:

	Low	Liberal
Term and laboratory fees	$200.00	$240.00
Room rent, fuel, light	50.00	100.00
Table board	240.00	270.00
Books	15.00	40.00
Total	$505.00	$650.00

Expenses other than those enumerated depend largely upon the student's tastes and habits, and the college does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more. This estimate, of course, does not include travelling or personal expenses. An economical student can live on $550.00 a year.

A circular detailing the expense of living in Cochran Hall will be sent on request. Cochran Hall rooms are occupied by upper classmen. Freshmen obtain rooms with private families near the college.

FOR WOMEN

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors; and young women have access to all departments of the college, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The hall is under the charge of the Dean of Women, whose influence, as well as that of her competent assistants, is constantly felt in the social, moral, and religious development of the young women under her care.

For the proper maintenance of the hall as a college home for young women, certain specific rules are essential; but it is the policy of the college to make only such regulations as will best protect the interests of those who reside in the dormitory.

The rules governing the conduct of the young women of Hulings Hall were carefully drawn up by the administration of the college and the Dean of Women, and by action of the faculty were entrusted to the Student Government Association of the hall, which assumes the responsibility for the observance of all rules and regulations. Thus under the guid-

ance of the Dean of Women and the executive board of the association, the young women of the hall are given individual and community responsibility for their conduct in college life. A copy of the regulations for the government of the hall will be sent on request.

The services of a resident trained nurse are maintained in the dormitory, and this valuable addition to the hall life has been justified by the better conditions for health and comfort afforded the young women. A $10.00 house fee is made payable at the beginning of the year. In case a student leaves before the beginning of the second term, one-half of this fee is refunded.

The rooms are furnished with single beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: sheets, one and one-half by two yards, pillow-cases, bed covering, towels, and napkins.

The rates by the year, including board, room, heat, and light, are $335.00 for each student. This rate is subject to change without notice. The rooms are all double, so that two students occupy each room. In case a student desires to room alone, there is an additional charge of $50.00. Bills are payable in four installments as follows: $110.00 at the opening of the year, $60.00 on the second Monday in November, $95.00 at the opening of the second term, and $70.00 on the third Monday in April. A deposit fee of $10.00 is required when a room is reserved. This fee is credited on the last payment of the year, but it not returnable after July first or in case the student leaves college before the end of the year.

AID TO STUDENTS

Self-Help—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the college or the boarding clubs. Others find in town opportunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the college to help students who help themselves.

The Lindley Endowment—By the will of the late Miss Lucy Lindley, of Meadville, the college received the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund—In 1904 Mrs. Hettie F. Ballantyne, of Pittsburgh, gave to the college thirty thousand dollars in memory of her husband, James Alexander Ballantyne; the fund is known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expenses, of the sons and daughters of ministers of the Pittsburgh Conference, and of young men from within the bounds of that conference who are studying for the ministry. This fund is administered by the officers of the college faculty on recommendation of a committee of the Pittsburgh Conference.

The George W. Wright Scholarship Fund—This is a gift of $1,000 from the Honorable George W. Wright, of Mercer, Pa., a former student of Allegheny College. The proceeds of this fund are to constitute a scholarship to be awarded each year on the nomination of Mr. Wright's representative.

The Chambers Scholarship Fund—This is a fund of $11,750 established by the estate of the late George W. Chambers, of Oil City. The interest on the endowment is used to provide loans for worthy students.

The Bagley Scholarship Fund is a gift of $5,000 from Mr. C. H. Bagley, of Corry, Pa. The proceeds of this fund provide a scholarship each year to a representative of the Corry High School.

The Schoenfeld Scholarship—This is an annual gift of $100 by Mrs. Julia Schoenfeld Sheeline, '97, of Altoona, Pa.

High School Scholarships—The Board of Trustees has established prize scholarships of one hundred dollars each, to be awarded each year to honor students in the high schools of Pennsylvania ranked first grade by the State Department of Education and schools of like rank in other states in the patronizing territory of the college. In case the graduating class numbers ten or fewer, the scholarship must be awarded to the one who has maintained the highest scholastic rank during his high school course; if the class numbers more than ten and not over twenty-five, it may go to the first or second in rank; if the class numbers more than twenty-five and not over fifty, it may go to anyone of the highest three; if there are over fifty in the class the hundred dollar scholarship and a secondary

scholarship of fifty dollars may be awarded to any two of the highest five. The amount of the scholarship is credited toward the payment of the fees of the freshman year.

Educational Society Loans—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. The loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference. The loans are made by the Society on the recommendation of the faculty.

No aid from the above mentioned funds, or from any other source, is given to students who use tobacco.

A student having received aid from any of the college funds will be given a letter of dismissal to enter another college only after all such aid shall have been returned.

RELIGIOUS CULTURE

The college was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

The religious influence of the college is not in any sense sectarian, but Christian. On the rolls this year are representatives from eighteen Christian denominations.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Their services are held on Wednesday evening of each week.

Chapel services are held each morning, and all students are required to be present. Special vesper services are held in the chapel one Sunday each month. All students are expected to attend these services. The college preachers for 1921-22 are as follows:

Rev. William S. Mitchell, D.D., Philadelphia, Pennsylvania.
Bishop H. Lester Smith, D.D., Bangalore, India.
Rev. Virgil Rorer, D.D., Indianapolis, Indiana.
Bishop Frank M. Bristol, D.D., LL.D., Chattanooga, Tennessee.
Sherwood Eddy, LL.D., New York City.
Bishop Charles Bayard Mitchell, D.D., LL.D., St. Paul, Minnesota.
Rev. Joseph M. M. Gray, D.D., Scranton, Pennsylvania.
Bishop Thomas Nicholson, D.D., LL.D., Chicago, Illinois.
Rev. S. Parkes Cadman, D.D., New York City.
Bishop Edwin H. Hughes, D.D., LL.D., Boston, Massachusetts.

THE ADVISER SYSTEM

Each student on entering college chooses some member of the faculty, who serves throughout the freshman year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be perfectly fraternal, without restraint on either side. After the freshman year, as soon as the student has

selected his major subject, the professor under whom the student chooses to do his major work becomes the student's adviser for the remainder of the course.

CLUBS

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members along the lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the college. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Philo-Franklin Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate. The society is under the guidance of representatives of the departments of English and Public Speaking.

Le Petit Salon meets monthly for the purpose of French conversation and study of French art, literature, etc. Its alternate sessions are in conjunction with the Meadville branch of L'Alliance Francaise, an international organization. The membership is limited to thirty and includes the instructors and advanced students in French.

The Modern Problems Club, under the guidance of the departments of History and Economics, meets monthly for the discussion of current social, economic, and political problems. This club, which is a branch of the Intercollegiate Civic League, is limited to juniors and seniors.

The Tingley Biological Club, composed of instructors and advanced students in the Biology department, meets fortnightly for the presentation and discussion of papers by the various members; each member presents two papers a year dealing with some phases of biological research.

The Thoburn Club is an organization composed of such men of the college as are fitting themselves for the ministry, missionary work, Young Men's Christian Association service, or any other public religious activity. It brings to the college each year a number of lecturers on such subjects as would naturally appeal to the membership; and holds monthly meetings for social intercourse, intellectual debate, and religious stimulus. It is in close alliance with the Thoburn Chair of English Bible and Philosophy of Religion. For many years it has been one of the best known religious forces in the college.

The Dutton Society of Applied Science, composed of instructors and students in the department of Mathematics and Surveying, meets fortnightly for the discussion by students of problems and current events in the field of applied science, and for the presentation of technical papers by practicing engineers. Several short trips are made each year to inspect and investigate construction projects in the vi-

cinity of Meadville. All members of the society hold membership in the American Association of Engineers, and it is planned to hold part of the meetings in connection with the local chapter of that organization.

The History and Political Science Club, composed of those who are majoring in the department of History and Political Science and of other elected students, meets fortnightly. It is affiliated with the "International Relations Clubs" movement, receives the documents and literature sent out by the Institute of International Education, and is addressed at least twice a year by speakers of distinction under the auspices of the Institute. During the year 1922-23 one meeting each month is devoted to international questions, and one to local history.

JOHN C. STURTEVANT MEMORIAL FOUNDATION

By a gift of a fund of $5,000, Mr. Paul Sturtevant, '99, and Mr. Watkin P. Sturtevant, '06, have established a Lectureship Foundation in memory of their father, Hon. John C. Sturtevant. The income from this fund is used in providing lectures by eminent men on topics of general interest.

HONORS

Graduation Honors

Seniors who have had no grade less than A during their entire college course are awarded "summa cum laude." All other seniors who have had no grade less than B and have maintained an average of A are

awarded "magna cum laude." All other seniors who have had no grade less than C and have maintained an average of 88 are awarded "cum laude." Graduation honors are announced at the Commencement exercises.

Class Honors

In each class students who have had no grade less than B during the year and who have maintained an average of A are awarded "First Honors." Other students who had no grade less than C and have maintained an average of 88 are awarded "Second Honors." Class honors are announced at the opening of the college year.

PRIZES

Four annual prizes are open for competition among the students of the college classes.

The Wakefield Oration Prize—Mr. James A. Wakefield, of Pittsburgh, offers a prize of fifty dollars in the name of his grandfather, the Reverend Samuel Wakefield, D.D., awarded in December of each year to the young man delivering the best oration. The winner of this prize represents the college in the Intercollegiate Civic Oratorical League Contest held in May.

The Philo-Franklin Oration Prize—The old Philo-Franklin Literary Society has secured a permanent endowment fund of six hundred dollars for prizes in oratory. The income provides a first and second prize. The contest is open only to members of the Philo-Franklin Forum.

Heckel Prizes in Science—Two prizes, a first prize of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburgh. These prizes are awarded for the best two theses written by graduate or undergraduate students upon scientific subjects. The theses are presented on the first day of May and the prizes awarded on the following Commencement Day.

Ballinger Prize—A prize of twenty-five dollars is offered by The A. L. Ballinger Co., of Meadville, to be given each year to that member of the senior class who has shown unusual excellence in chemistry, under terms agreed upon by the donors and the head of the department of Chemistry.

PHYSICAL TRAINING

For Men—The object of this department is to promote the health, increase the strength, and secure the symmetrical development of the students. These objects are accomplished by class exercises in the gymnasium during the winter, on the field in the fall and spring, and by periods of optional work after class hours.

Physical measurements and tests are taken upon entrance, at the close of the college course, and at other times as may be necessary. These determine the student's condition and needs, and the character and amount of exercise necessary to overcome irregular development or deformities that are amenable to physical exercise.

Students will receive personal advice with reference to habits of life, exercise, study, and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise is required of all freshmen and sophomores three hours a week, from the middle of October to the middle of May. Exemption will be granted only on certificate from a physician designated by the Faculty Athletic Committee, the examination to be at the student's expense.

For Women—The aim of the work is to promote the general health, freedom, and poise of the body. It is based on rhythmic expression, a scientific system of technique founded upon rhythm, which gives joyous, invigorating, and creative exercise. The body is relaxed, tension is removed, repression is eliminated. Rhythmic expression stimulates the imagination and develops not only perfect health and coordination of body but also an understanding of beauty in nature and in art.

Two hours of the work are required throughout the year of all freshmen and sophomore women. Special corrective work may be substituted for the above by those who want it. Advanced elective or corrective work is offered to juniors and seniors. The gymnasium is conveniently located in Hulings Hall. Competitive outdoor work is encouraged.

ATHLETICS

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all men of

the college are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. By an arrangement voluntarily entered into by the students, all young men pay $10.00 and all young women $6.00 for the support of athletics. For this they receive season tickets to all games. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be *bona fide* students taking not less than twelve hours' work; must have been registered at the opening of the year in which they compete; may not have more than four hours' condition in former or current term's work; and may not receive remuneration, directly or indirectly, for their services. The college is a member of the National Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES

The degrees of Bachelor of Arts and of Bachelor of Science are conferred upon students who complete in a satisfactory manner the requirements for these degrees as outlined on the preceding pages.

Bachelors of Arts of this college may pursue, in residence, work in not more than two distinct lines of study; and on the completion of a full year's work, including a satisfactory thesis, receive the degree of Master of Arts.

The degree of Master of Science is conferred upon

Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the college pays a diploma fee of ten dollars.

Register of Students

Graduate Students

Copeland, Maude Elizabeth. Meadville.....R. D. 9
A.B., Allegheny, 1918—Philosophy, French

Fix, E. Lester.....Meadville.....254 Arch St.
B.S., Allegheny, 1921—Chemistry

Parker, Ruby May,.....Meadville.....Miller Ave.
A.B., Ohio Wesleyan University, 1921—Chemistry, Philosophy

Pond, Frederick Logan...Meadville.....764 Baldwin St.
B.S., Allegheny, 1920—Chemistry, Physics

Rowley, Richard Floyd...Pittsburgh.....572 Smith St.
B.S., Allegheny, 1920—Physics, Mathematics

Thoburn, Ruth H. C.....Meadville.....380 N. Main St.
A.B., Cornell College, 1891—Philosophy

Traum, Wilhelmine.....Milligan, Tenn.....561 Lord St.
A.B., Allegheny, 1921—English

Seniors

Name	Home Address	Meadville Address
Abbott, Marjorie Christine	Minneapolis, Minn.....	Hulings Hall
Baldwin, Roger Lee.....	Washington, D. C.....	Φ K Ψ House
Barnes, Mary Kathryn....	Toledo, O.....	Hulings Hall
Beattie, Alfred Wesley....	Farrell	
Bender, Albert Julius....	Meadville.....	196 Oak St.
Bingaman, Walter Weaver	Latrobe.....	Cochran Hall
Bird, George Lloyd.....	Meadville.....	745 Baldwin St.
Bird, John Caraway.....	Meadville.....	745 Baldwin St.
Bittner, Guy Clement....	Meadville.....	555 Highland Ave.
Bly, Lucile Mildred.....	Jamestown, N. Y.....	Hulings Hall
Booth, George.....	Pittsburgh.....	Σ A E House
Brevoort, Maurice John..	Sinclairville, N. Y.....	Cochran Hall

Britton, Winifred Clare..Irwin.....1131 S. Park Ave.
Brown, Marguerite Christine Cameron.....Pittsburgh.....Hulings Hall
Brown, Martha Priscilla..Tionesta.....Hulings Hall
Buchanan, Hugh Henry...Hastings, Nebr.....Φ Γ Δ House
Bushyager, Glenn Ray....Jeanette.....705 N. Park Ave.
Carlson, Sidney H.....Lakewood, N. Y.....Φ Γ Δ House
Challener, William Albert Jr. .....Pittsburgh.....Φ Γ Δ House
Charlton, Emily Marie...Meadville.....630 Madison Ave.
Collins, Lorna Varene...Centerville.....Hulings Hall
Conroe, John Sidney....Cambridge Springs.....Φ K Ψ House
Cornell, Owen Montague.Wattsburg.....Σ A E House
Coulter, Sara Eleanor....Butler.....Hulings Hall
Crandall, Evelyn Estelle...Edinboro .....
Crumrine, Kennedy, Jr...Meadville.....694 Arch St.
Cunningham, Ray George.Cattaraugus, N. Y.....Δ T Δ House
Drake, Lucile.....Meadville.....399 Prospect St.
Dundon, Lynn Culbertson.Edinboro.....Φ Γ Δ House
Dusenberry, Marion.....Conneaut, O.....Hulings Hall
Eaton, Hamblen Cowley..Warren.....A X P House
Ellis, Mildred Frances....Meadville.....Star Route
Fink, Elouise.....Cambridge Springs.....Hulings Hall
Finley, Phoebe Lockard...Warren .....
Flint, Wilson Revis.....Wilkinsburg.....Φ Γ Δ House
Frazier, David Wilson....Conneautville.....Φ Γ Δ House
Gealy, Mary Evelyn.....Oil City.....Hulings Hall
Gerdon, James Louis.....Meadville.....742 N. Main St.
Gibson, John Arthur, Jr...Butler.....826 Park Ave.
Graham, Mortimer Elliott.Oil City.....Φ Δ Θ House
Hickman, Elton Hartford.Meadville.....R. D. 7
Hixson, Jerome Canady...Meadville.....545 Park Ave.
Hoover, Amanda.....Franklin .....
Horne, Thomas Brinker..Pleasant Unity.....A X P House
Houser, Gertrude KatherineMeadville.....288 Loomis St.
Hovis, Genevieve McKean.Clintonville.....Hulings Hall
Hovis, Josephine Lucile..Clintonville.....Hulings Hall
Hulin, Louise Marion....Franklin.....Hulings Hall
Jeffrey, Bess.....Trauger.....Hulings Hall
Jelbart, Charlotte Abigail.Meadville.....808 N. Main St.

Jenkins, Paul Whistler....Butler .....
Johnson, Isabelle McGilvray Meadville.....670 Park Av
Jones, Hiram Arthur....Beaver.....Φ Γ Δ Hous
Jordan, Wm. Edward, Jr..Woodhaven, N. Y.....Φ Γ Δ Hous
Kamerer, James William..Greenville.....Φ K Ψ Hous
Kerr, Ethel Sarah.....Oil City.....Hulings Ha
Kirkpatrick, David D.....Butler.....Δ T Δ Hous
Kirschner, Gale Reese...Edinboro.....A X P Hous
Kramer, Arthur Kilian...Meadville.....416 Pine S
Kunselman, Everett Burke.Verona.....Φ Δ Θ Hous
Lander, Wilma Elizabeth..Monessen.....Hulings Ha
Leberman, Gordon B.....Meadville.....432 Walnut S
Leberman, Harold Davis..Meadville.....Δ T Δ Hous
Lillie, Marjorie Emelia...Ripley, N. Y.....196 Spring S
Limber, Ralph Clark.....Sheakleyville .....
McCreary, Thomas William Monaca.....Δ T Δ Hous
McKinley, Samuel Walter.Meadville.....606 N. Main S
McMillin, Coral Frances..Meadville.....636 Madison Av
MacLaren, Elizabeth Ailene Warren.....Hulings Ha
Maitland, Henry Merrill..Franklin.....Σ A E Hous
Maitland, William Howard.Franklin.....Σ A E Hous
Miner, Mary Elizabeth...New Castle.....Hulings Ha
Morneweck, Carl D.....Greenville.....Φ Γ Δ Hous
Murphy, Daniel Joseph...Erie.....Σ A E Hous
Parent, Fernand Noel....Charleroi.....Σ A E Hous
Parker, D. LaVerne.....Avalon.....Φ Γ Δ Hous
Patterson, Harry Bruce...Saegertown .....Saegertow
Peabody, Sarah Mary....Springwater, N. Y.....Hulings Ha
Peters, Margaret Elizabeth.Saegertown.....399 Prospect S
Pitt, Harriette Francis...Ripley, N. Y.....Hulings Ha
Postance, Alta Lucile....Meadville.....640 Washington S
Pringle, Gail Willard.....Franklin.....Φ K Ψ Hous
Redman, Anna Royal.....Braddock.....Hulings Ha
Richey, William Harold..Vandergrift.....Φ Γ Δ Hous
Runninger, Grace G.....Franklin.....Hulings Ha
Russell, Marion Edward..Falconer, N. Y.....Cochran Ha
Schall, Martha Elisabeth..Vandergrift.....Hulings Ha
Secor, Ralph Brunner....Ridgway.....Φ Γ Δ Hous
Severn, William Erskine..Mt. Pleasant.....Φ K Ψ Hous
Shewman, Alon Watson..New Castle.....Φ Δ Θ Hous

Smith, Frederick Edward..Meadville.....515 Terrace St.
Steele, Mildred Glendine..Meadville.....688 Park Ave.
Stoner, Mildred Louise...Scottdale.....Hulings Hall
Swanson, Walter P.....Ridgway.....Φ Γ Δ House
Theuret, Ralph Alphonso.Meadville.....705 N. Cottage St.
Tuck, Ruth Adele.....Roseburg, Oregon.....Hulings Hall
Virtue, Kenneth Graeme..Guys Mills.....Φ Δ Θ House
Ware, Harold Glenn.....Greenville.....Φ K Ψ House
Weaver, Ralph Holder...Carmichaels.....684 N. Park Ave.
Weckerly, Louise H.....Chevy Chase, Md.....Hulings Hall
Weller, Clara Mehitible..Springboro.....Hulings Hall
Wooley, Nelle.....Scottdale.....Hulings Hall
Youngs, Howard Ellis....North East.....219 Spring St.

Juniors

Name	Home Address	Meadville Address
Agnew, Ralph Palmer	Poland, O.	A X P House
Avery, Maria Pearl	Meadville	613 N. Main St.
Bacon, Ralph Delos	Meadville	633 William St.
Bates, Samuel P.	Meadville	674 Highland Ave.
Beecher, John James	Pittsburgh	294 Prospect St.
Blodgett, Russell Conwell Milo	Fredonia, N. Y.	A X P House
Boak, Raymond Harold	New Castle	Φ Δ Θ House
Bollinger, Charles Aubrey	Meadville	558 Highland Ave.
Bourquin, Warren Ducray	Meadville	779 N. Main St.
Bowman, Helen Jane	Kane	Hulings Hall
Boynton, Carlyle T.	Walworth, N. Y.	Φ Δ Θ House
Bozic, John Herbert	Jeanette	Φ Δ Θ House
Brown, Mildred Bennett	Meadville	Hulings Hall
Burdick, Earl Rudolph	Colegrove	563 Randolph St.
Canby, Joseph Edward	New Castle	Φ Δ Θ House
Cartwright, Oscar Ling	Sharpsville	A X P House
Chapin, George Wilson	Meadville	Allegheny St.
Clarke, Paul Woodworth	Geneva, O.	Φ K Ψ House
Cochran, Charles Howard	Wilkinsburg	Φ Γ Δ House
Collins, Grace Esther	Portland, Ore	Hulings Hall
Courtney, Raymond Stephen	Guys Mills	1044 Liberty St.
Dale, Horace Darlington	Royal Oak, Mich	Φ Δ Θ House
Doing, Russell Thomas	Edinboro	Δ T Δ House
Eimers, Marion Helena	Ripley, N. Y.	Hulings Hall
Estep, Ivey Burdine	Indiana	Cochran Hall
Finney, Edwin Ashley	Meadville	568 State St.
Fleming, Ira Ozie	Ridgway	610 N. Main St.
Gergley, Emro Joseph	McKeesport	705 N. Park Ave.
Gerhardt, Martin Luther	Johnstown	Geneva
Goodwin, Kennard Hill	Meadville	862 Grove St.
Greenlund, Tracey Elliott Glidden	Warren	A X P House
Grenelle, Alice Lydia	Rochester, N. Y.	Hulings Hall
Grenelle, Virginia	Rochester, N. Y.	Hulings Hall
Hafer, George Byron	Coraopolis	Φ K Ψ House

Hamilton, Marion Margaret.Conneautville.....Hulings Hall
Hammerton, Olive Fitz-
Randolph.....Meadville.....371 George St.
Hammond, Margaret LouiseReynoldsville.....Hulings Hall
Henderson, Mary Cora....Connellsville.....Hulings Hall
Henry, William Louis....Blairsville.....Φ K Ψ House
Himebaugh, John Walter.Meadville.....386 Walnut St.
Hines, Kenneth Arden...Meadville.....678 State St.
Hitchens, Fred Stentz....McKeesport.....Σ A E House
Johnson, Tracey Lloyd...Cattaraugus, N. Y.....A X P House
Jolly, Frank Lindholm....Houston, Texas.....Φ Γ Δ House
Jones, William Melville..Homestead.....Δ T Δ House
Kelly, Robert H.....Salamanca, N. Y.....219 Spring St.
King, Elizabeth Flotsam..Meadville.....1005 Market St.
Kinney, Charles Edward..Louisville, O.....Σ A E House
Kirk, Harriet Ruth.....Monessen.....Hulings Hall
Klinginsmith, Ray Law-
rence .....Meadville.....787 N. Main St.
Kofford, Maurice E.....Clarendon.....Δ T Δ House
Krebs, William Henry....Gowanda, N. Y.....Φ K Ψ House
Lane, Ruth E.....Turtle Creek.....Hulings Hall
Larson, J. Edwin.....Brookston.....Φ K Ψ House
Leeper, Dorothy StevensonTerrace.....Hulings Hall
Leffingwell, Helen Lucile.Meadville.....388 N. Main St.
Loomis, Herschel Hare...Larimer.....Φ Δ Θ House
Louden, Linnie Elizabeth.Tarentum.....Hulings Hall
McCafferty, Ruth.....Allison Park.....Hulings Hall
McGarrah, Roy Franklin..Franklin.....Cochran Hall
McIntyre, John William..Meadville.....568 Washington St.
McQuiston, Nellie Blanche.Meadville.....180 Penn'a. Ave.
Mabon, Alexander WallaceIndiana.....Φ K Ψ House
MacGowan, Leonard
Franklin .....Smethport.....Φ Δ Θ House
Mack, Bliss Benton.....Titusville.....219 Spring St.
Marsh, Donnell.....Waterford.....409 Prospect St.
Miller, Eugene Porch.....Mt. Pleasant.....A X P House
Miller, Harry Clarence...Meadville.....548 Baldwin St.
Minch, Dorothy Kathryn.Coraopolis.....Hulings Hall
Mitchell, James Herbert..Oil City.....219 Spring St.
Mook, Paul V.....Saegertown .....Saegertown

Moore, Floyd Harry.....Meadville.....572 Randolph St.
Mumford, Edna Elizabeth.Warren.....Hulings Hall
Murphy, Robert Lockart.Bellevue.....Φ Γ Δ House
Mussler, Dorothy Ellen...McKeesport.....Hulings Hall
Nichol, A. Dale.....Youngstown, O.....Δ T Δ House
Niles, William Henry....Springwater, N. Y.....A X P House
Parker, William Jerome,
Jr. .....Avalon.....Φ Γ Δ House
Pond, Gerald Thompson..Meadville.....447 Walnut St.
Powell, Ralph Moore....Cochranton.....Cochran Hall
Prather, Gerald Dean....Meadville.....554 Walnut St.
Rishell, Ruby R.....Johnstown.....Hulings Hall
Roach, John Stover.....Pittsford, N. Y.....Σ A E House
Robins, Kathryn Clark...Monessen.....Hulings Hall
Ross, Julian Lenhart....Meadville.....969 S. Main St.
Russell, John Robert....Edgewood.....Φ Γ Δ House
Schanck, Dorothy May...Meadville.....828 Water St.
Shaffer, Helen Marie....Scalp Level.....Hulings Hall
Simmons, Katherine LouiseYoungstown, O.....Hulings Hall
Sparks, Samuel M.....Tarentum.....Cochran Hall
Steele, Sarah E.....Ruffsdale.....Hulings Hall
Sterling, Homer Ellsworth.Meadville.....695 N. Main St.
Strauss, Leda Etna.....Meadville.....782 N. Cottage St.
Swanson, Ethel Margaret.Sheffield.....Hulings Hall
Tate, James Harrison....Erie.....Φ Δ Θ House
Thoburn, Charles Stanley.Meadville.....380 N. Main St.
Titus, Harriet P.....Barnes.....Hulings Hall
Tobin, Mary Alicia.....McKeesport.....Hulings Hall
Webb, Paul Adam.....Erie.....Cochran Hall
Wills, Charles Howard...New Brighton.....Φ K Ψ House
Wimmer, Charles Robert.Meadville.....439 Pine St.
Wise, Vernon Laing.....Butler.....Δ T Δ House
Wood, Ruth Hazel.....Corry.....Hulings Hall
Zurbuch, Frank Stewart..Wheeling, W. Va.....Φ K Ψ House

Sophomores

Name	Home Address	Meadville Address
Allgood, Sarah Venetta	Tionesta	Hulings Hall
Alter, Samuel Ashe	Parnassus	Σ A E House
Andrews, Glen Fairman	North Girard	Cochran Hall
Bailey, Walter Lewis	Carmichaels	684 Park Ave.
Baldwin, Ellis Kennedy	Jamestown, N. Y.	Φ K Ψ House
Barnes, Sylvia Margaret	New Castle	Hulings Hall
Beedy, Mary Janet	Meadville	916 Diamond Park
Berlin, Leonore Adeline	Coudersport	Hulings Hall
Berry, Virginia Louise	Cambridge Springs	Hulings Hall
Bird, Donald Paul	Meadville	745 Baldwin St.
Black, Everett Orval	North East	A X P House
Bowser, Jeane Rebecca	Kittanning	Hulings Hall
Boyd, Helen Madeline	Cambridge Springs	Hulings Hall
Braun, George Raymond Dewey	Pittsburgh	630 Baldwin St.
Braun, Louis A.	Bellevue	Φ Γ Δ House
Briggs, Edith Dorothy May	McKeesport	Hulings Hall
Brown, Harriet	Meadville	548 State St.
Brown, George Lorimer	Meadville	364 Walnut St.
Brownell, John Edward	Meadville	468 Chestnut St.
Buchanan, Mary Isabel	Jamestown, N. Y.	Hulings Hall
Burns, Arthur Roscoe	Hilliards	Φ Δ Θ House
Carroll, Ruth Thelma	Fredericktown	Hulings Hall
Clark, Dale	Geneva	Geneva
Clark, Ralph A.	Meadville	409 Randolph St.
Coale, Donald Howard	Warren, O.	Δ T Δ House
Cook, Marguerite Irene	Meadville	722 Liberty St.
Cook, Marian Ayleen	Meadville	722 Liberty St.
Crandall, Florence Marie	Edinboro	Hulings Hall
Crosby, Fannie	Meadville	379 Walnut St.
Curry, Gertrude Ruth	Meadville	437 Randolph St.
Cusick, Charles Leroy	Pittsburgh	646 Madison Ave.
Dale, Courtney Miller	Erie	Φ Γ Δ House
Davies, Samuel Eugene	Oil City	A X P House
Davis, Lillian Merrill	Columbus, O.	Hulings Hall
DeVore, Leroy Clarence	Meadville	666 Park Ave.
Doolittle, Merrill Ward	Corry	409 Prospect St.
Dorworth, Mary Cecilia	Oil City	Hulings Hall

Drake, Dorotha Mae.....Cambridge Springs.....Hulings Hall
Dundon, Roscoe C.....Edinboro.....Φ Γ Δ House
Eaton, Everett Barry....Cambridge Springs....593 Baldwin St.
Eaton, Robert Pierson...Warren.....A X P House
Ellsworth, Richard WatsonMeadville.....1092 S. Park Ave.
Emery, Edward Nowlen...Mercer.....593 Baldwin St.
Friend, Clyde L.....Clairton.....Cochran Hall
Fries, John Joseph.....Erie.....Φ Δ Θ House
Gage, Chase Richard....Cambridge Springs.....Φ K Ψ House
Gasteiger, Edgar Lionel..Meadville.....R. D. 9
Gealy, Wendell Baum....Oil City.....Φ Γ Δ House
Gilmore, Florence Isabelle.Sandy Lake.....Hulings Hall
Greenwood, Ruth ChristineErie.....Hulings Hall
Grimaldi, John.....Meadville.....1269 S. Water St.
Gvatsovsky, Louis AndrewPittsburgh.....273 Prospect St.
Halderman, Lois.....Pittsburgh.....Hulings Hall
Hanst, George Stanley...Lamartine.....395 N. Main St.
Happell, George Edward..Saegertown .....Saegertown
Havice, Charles William..Oil City.....A X P House
Hild, Margaret E.....Freeport.....Hulings Hall
Hoehle, Armand FrederickPittsburgh.....440 Arch St.
Hough, Fred W.....Meadville.....516 Chestnut St.
Howe, Jean Bennett.....Tarentum.....Hulings Hall
Hummer, Harry David...Meadville.....681 Highland Ave.
Hunt, William Henry....Youngstown, O.....A X P House
Ingraham, Donald Riddle.Townville.....A X P House
Irwin, Dorothy Belle.....Meadville.....994 S. Park Ave.
Jennings, Ivah Cass.....Erie.....Hulings Hall..
Jones, Ruth Eleanor.....Southville, Mass.....Hulings Hall
Joyce, Blanche Greenleaf.Meadville.....825 Liberty St.
Kinkaid, Walker W.....McKeesport.....Σ A E House
Knapp, Horace Byron....Conneautville.....Φ Γ Δ House
Kuder, Katherine.....Meadville.....489 Highland Ave.
Laffer, Ellen Elizabeth....Meadville.....873 Liberty St.
Lane, Georgiana.....Lane's Mills.....Hulings Hall
Leffingwell, Guerdon Elisha Meadville.....388 N. Main St.
Leffingwell, William
Laurens .....Meadville.....388 N. Main St.
Lighty, Margaret Rebecca.Homestead Park.....Hulings Hall
Lillie, Howard Russell...Ripley, N. Y.....Cochran Hall

Ling, Ruth.....Meadville.....581 Park Ave.
Lorz, Theodore.....Meadville.....543 Randolph St.
Luse, Edwin Franklin....Carmichaels.....Cochran Hall
McCleery, Louis Smith...Saegertown .....Saegertown
McDonald, Martha Catherine .....Reynoldsville.....Hulings Hall
MacElroy, William D.....Youngstown, O.....Δ X P House
McQuiston, Sara Lucile...Wilkinsburg.....Hulings Hall
Miles, Clyde Cecil.....Gowanda, N. Y.....Cochran Hall
Minch, Marion Minerva..Coraopolis.....Hulings Hall
Moffatt, Joseph Carl.....McKeesport.....Φ Δ Θ House
Mohney, Don Pope.....Ridgway.....Φ Γ Δ House
Mook, Arden David.....Saegertown.....Φ K Ψ House
Mook, Milo M.....Titusville.....Cochran Hall
Moore, Marian Lenore...Meadville.....572 Randolph St.
Morgan, Dorothy Mary...Sharon.....Hulings Hall
Morley, Hubert.....Youngstown, O.....Δ T Δ House
Mosier, Ayleen Marie....Meadville.....176 Spring St.
Mountsier, Silas Rush, Jr..Bellevue.....Φ Γ Δ House
Neely, Clarence Herbert..Franklin.....Φ Δ Θ House
Nunn, Lawrence Hill.....Meadville.....320 Loomis St.
Olmsted, Marion Carolyn.Conneaut, O.....Hulings Hall
Olsen, Ethel Laura Marie.Warren.....Hulings Hall
Olsen, Tillie Marie.....Springboro.....Hulings Hall
Pattison, Lawrence T....Cochranton.....Cochran Hall
Perkins, Harriet JosephineCambridge Springs....916 Diamond Sq.
Peters, Myrtle Sophia....Rankin.....Hulings Hall
Pratt, Robert William....Pittsburgh.....559 Highland Ave.
Quay, Albert Harrison...Townville.....814 Water St.
Quinlon, Margaret.....Meadville.....844 Park Ave.
Rankin, Mary McClure...McKeesport.....Hulings Hall
Redmond, Walter Martial.Meadville.....Henderson Ave.
Reed, Dorothy Alberta...McKean.....Hulings Hall
Reyner, Charles Edward..Leeper.....Cochran Hall
Reynolds, Elsie Elizabeth.Meadville.....726 Baldwin St.
Rice, Harry H.....Indiana.....Φ K Ψ House
Roach, Alice Stover.....Pittsford, N. Y.....Hulings Hall
Robinson, Helen Gertrude.New Florence.....Hulings Hall
Robinson, Kathryn.....Bolivar.....Hulings Hall
Rose, Dorothy Mildred...Girard.....Hulings Hall

Rose, Dora Mildred.....N. Braddock.....Hulings Hall
Schafer, Leonard Alvin...Pittsburgh.....Δ T Δ House
Seigworth, Gilbert H....Lickingville.....507 N. Park Ave.
Shea, Nelson John.....Meadville.....769 Water St.
Shively, Walter Freece...Lamartine.....A X P House
Shultz, Paul Howard.....Turtle Creek.....Σ A E House
Siedle, Theodore Anthony.Erie.....A X P House
Skelton, Alice.....Sheffield.....Hulings Hall
Smith, Kenneth Alfred...Saegertown .....Saegertown
Smith, Victorine.....Meadville.....625 Baldwin St.
Smith, William Howard..Turtle Creek.....Σ A E House
Steetle, Ross Patton.....Indiana.....Φ K Ψ House
Stenstrom, John RaymondErie.....Φ Γ Δ House
Tannehill, Willard FrancisScottdale.....Φ K Ψ House
Tefft, Charles Ewig.....Irwin.....392 E. College St.
Thomas, Terence W.....Meadville.....721 Baldwin St.
Titus, Nellie Elizabeth...Barnes.....Hulings Hall
Trenouth, Flora AntoinetteSheffield.....Hulings Hall
Vinton, John Rudolph...Clairton.....Cochran Hall
Wagner, Adrian Cornelius.Meadville.....1085 Liberty St.
Wagner, Sarah Gertrude..Braddock.....Hulings Hall
Webb, Arthur Bates.....Meadville.....628 Highland Ave.
Weigel, Charles Berling..Erie.....Cochran Hall
Whitfield, Mary MacLean.Crafton.....Hulings Hall
Wickham, Mary Blanchard.Rochester.....Hulings Hall
Wright, Matthew Victor,
Jr. .....Erie.....Φ Γ Δ House

Freshmen

Name	Home Address	Meadville Address
Adams, Victor Campbell.	Butler	535 Lord St.
Alcorn, James William...	Titusville	311 W. College St.
Alker, Robert T.	Indiana	536 Highland Ave.
Allebach, Theodore Henry	Emlenton	599 N. Main St.
Anderson, Elmer Sigfred..	Oil City	329 Prospect St.
Anderson, Frances Mary..	Tiona	Hulings Hall
Anderson, William Adams	Beaver	308 Prospect St.
Andrews, May Belle.	Conneaut Lake	771 Clark St.
Arnett, Winnie Davis.	Blessing, Texas	Hulings Hall
Arnold, Elizabeth.	Pittsburgh	Hulings Hall
Baker, Thomas Sheridan..	Lottsville	637 Baldwin St.
Bates, Elizabeth.	Meadville	602 Chestnut St.
Bates, John L.	Meadville	674 Highland Ave.
Baum, Herbert Calvin.	Dawson	329 Prospect St.
Baum, Olive Ruth.	Dawson	Hulings Hall
Bird, William Alfred.	Fayette City	447 Walnut St.
Blackwell, Lewis S.	Pennington, N. J.	516 Chestnut St.
Blair, Melvin Austin.	Greenville	Greenville
Blanchard, Donovan C...	Meadville	R. D. No. 9
Bliss, Homer Austin.	Jefferson, O.	311 W. College St.
Boal, Donald Speer.	Pittsburgh	661 Cullum St.
Boyle, Dallas Clare.	Erie	550 Baldwin St.
Brakeman, Edna Elizabeth	Erie	Hulings Hall
Brendell, Lloyd Johnston.	Connellsville	659 William St.
Brew, Eugene James.	Erie	599 N. Main St.
Brooks, John A.	Geneva	599 N. Main St.
Bruce, William.	Erie	145 Glenwood Ave.
Brydle, Harriet Adell.	Conneaut, O.	Hulings Hall
Bunce, William F.	Kane	306 Prospect St.
Burchfield, Doris.	Meadville	390 Chestnut St.
Cadwell, Marvin Herbert.	Niles, O.	364 John St.
Carleton, Harold Robert.	Franklin	688 Park Ave.
Cawthorne, Francis Edwin	Linesville	Linesville
Chilcote, Virgil Angelo..	Homer City	632 William St.
Colbert, Irene Shepherd..	Pittsburgh	Hulings Hall
Coleman, Stewart E.	Renovo	317 Loomis St.
Crandall, Charles Wesley.	Erie	Rose Lane
Cummings, Hiram Wayne.	Edinboro	327 W. College St.

Dale, William Jess.....Erie.....450 N. Main St.
Davenport, Eleanor.....Meadville.....617 Baldwin St.
Davids, Cora Dorothy....Elmira, N. Y.....Hulings Hall
Davidson, Dorothy Cary..Louisville, Ky.....Hulings Hall
Davis, Everett Rankin...Vandergrift.....Δ T Δ House
Davis, Nathalee Grace...Cleveland, O.....Hulings Hall
Debolt, Virginia.....Waynesburg.....Hulings Hall
Demmler, Ralph Henry..Pittsburgh.....625 Baldwin St.
Devney, Lee J.....Ashtabula, O.....Gymnasium
Dickson, Hazel Fay.....Jamestown, N. Y.....Hulings Hall
Dougherty, Margaret....Olean, N. Y.....883 Water St.
Drake, Francis A. Jr.....Cambridge Springs....563 Highland Ave.
Drohn, Nelle Katherine...New Bethlehem.....Hulings Hall
Dunmire, Harold James..Franklin.....688 Park Ave.
Dyckes, Walter Fisher...Corry.....409 Prospect St.
Eddy, DeWitt Meade....Ashville, N. Y.....368 John St.
Eddy, Gerald Wylie.....New Castle.....998 Catherine St.
Elliott, Ruth Anna.....Meadville.....583 Highland Ave.
Farrell, James Reno.....Corry.....392 E. College St.
Fell, Dorothy Josephine..Greenville.....Hulings Hall
Field, Russell Henry.....Monongahela.....Δ T Δ House
Fisher, Nellis Hartley....Butler.....625 Baldwin St.
Flickinger, Chas. Henry..Vandergrift.....655 William St.
Frank, Joseph Bruno....Erie.....364 John St.
Fry, Helen Jones.....Scottdale.....Hulings Hall
Fry, Kenneth Belknap...Meadville.....Φ K Ψ House
Fuller, Kathryn Lenore...Springboro.....Hulings Hall
Fuller, Robert Henry....Ashtabula, O.....465 Highland Ave.
Geer, Wesley Gordon....Warren.....219 Spring St.
Gifford, Gladys Grace....Erie.....Hulings Hall
Goodnough, Frances Miriam.....Erie.....Hulings Hall
Gourley, Gladys.....Turtle Creek.....Hulings Hall
Graham, Alexander.....New Kensington.....Rose Lane
Graham, John Charles...Guys Mills.....Guys Mills
Green, Lorance.....Meadville.....787 Penn St.
Greenwood, Robert LeroyErie.....383 John St.
Griffing, C. Richard.....Linesville.....Linesville
Haines, Katherine Elizabeth.....Warren, O.....Hulings Hall

Hammett, Charles Edward, Jr.	Meadville	553 Park Ave.
Harper, Martha	Meadville	889 Liberty St.
Hayes, Robert Russell	Black Lick	550 Baldwin St.
Hildebrand, Grace Hardie.	Wampum	Hulings Hall
Hileman, Mildred Margaret	Monessen	Hulings Hall
Holmes, Gladys Dorothy.	LeRoy, N. Y.	460 Walnut St.
Hough, Seth Elmer	Meadville	516 Chestnut St.
Houser, Harold Ransome.	Meadville	288 Loomis St.
Houser, James Cowing.	Meadville	288 Loomis St.
Howe, Marion Flower	Mercer	Hulings Hall
Hoy, Eleanor	Oil City	Hulings Hall
Hughes, Dorothy Tamplin	Meadville	869 Liberty St.
Hummer, Bessie Joy	Titusville	681 Highland Ave.
Humphrey, Harriet Clark.	Union City	Hulings Hall
Hurst, Raymond Johnston	Millvale	630 Baldwin St.
Hutcheson, Frances D.	Hempstead, L. I., N. Y.	Hulings Hall
Ingram, Clarence H., Jr.	Pittsburgh	599 N. Main St.
Irish, Lucile Isabelle	Conneaut, O.	Hulings Hall
Jamieson, Hugh Crary	Warren	314 Loomis St.
Johnson, Charlotte G.	Meadville	797 Park Ave
Jones, Glenn Cove	Monongahela	308 Prospect St.
Jones, Mead Gorden	Summerville	550 Baldwin St.
Joyce, Florence Mason.	Meadville	825 Liberty St.
Judd, Marion Lawrence.	Meadville	499 Randolph St.
Kelly, Eleanore	Monessen	Hulings Hall
Kent, John Irwin	Meadville	709 Alden St.
Kerr, Mary Virginia	Oakmont	Hulings Hall
Kitchen, Jean MacPherson	Erie	Hulings Hall
Kocher, Carl J.	New Brighton	382 E. College St.
LaClair, John Franklin.	Uniontown	559 Park Ave.
Lambert, Charles Gordon.	Belle Vernon	565 N. Main St.
Langworthy, Lucille A.	Titusville	Hulings Hall
Lee, James Wilson	Oil City	593 Baldwin St.
Leeper, Robert Ward.	Terrace	616 N. Main St.
Little, Clifton Talmadge.	Ripley, N. Y.	395 N. Main St.
Logan, Harry C.	Meadville	565 Lord St.
Love, Mildred Evelyn.	Vandergrift	Hulings Hall
Lucas, Victor Edward.	Natrona	565 N. Main St.
McCollum, Robert J.	Meadville	400 N. Main St.

McCreary, John Willard..Monaca.....535 Lord St.
McCurdy, Everett DarlingCazenovia, N. Y.....469 N. Main St.
McFarland, David Foltz...Dunbar.....550 Baldwin St.
McGill, William Frank....Meadville.....726 N. Main St.
McKee, John Wilbert ClarkButler.....535 Lord St.
McQuiston, Theodore A..Wilkinsburg.....450 N. Main St.
MacDonald, Donald AngusPleasantville.....762 N. Main St.
Mason, Frank W.....Rushford, N. Y.....808 N. Main St.
Merritt, Milton Levant...Waterford.....317 Loomis St.
Miller, Inez Alta.....Meadville.....758 N. Main St.
Mitchell, Catherine Levis.Monaca.....Hulings Hall
Mondereau, Lorena Grace.Meadville.....871 Diamond Sq.
Mook, Maurice Allison...Saegertown .....Saegertown
Moore, Alexander Deemer.Brookville.....563 Highland Ave.
Morrison, Willis Stewart.New Brighton.....382 E. College St.
Mumford, Ruth Lucile...Warren.....Hulings Hall
Murphy, Harold G.....Parnassus.....Rose Lane
Muse, Glenn Odell.....Buena Vista.....630 Baldwin St.
Myers, Brayton Omar....Dayton, O.....550 Baldwin St.
Nance, Anna Mildred....Jefferson, O.....Hulings Hall
Nelson, Roy Andrew.....McKeesport.....599 N. Main St.
Nicklin, Agnes Angeline..Franklin.....Hulings Hall
Norris, Ida Katharine....Waynesburg.....Hulings Hall
Noyes, John Richard.....Pleasantville.....762 N. Main St.
Olson, Herbert.....Jamestown, N. Y.....559 Park Ave.
Phillips, William W.....Meadville.....661 Highland Ave.
Piper, Robert Elmer.....Pittsburgh.....661 Cullum St.
Prather, Margaret PatriciaMeadville.....554 Walnut St.
Pratt, John Miller.....Pittsburgh.....559 Highland Ave.
Price, Wesley E.....Titusville.....311 W. College St.
Pugh, Margaret Ruth....Turtle Creek.....Hulings Hall
Putnam, Clara E.....Harmonsburg.....159 Glenwood Ave.
Ray, Helen Gertrude.....Springboro.....Hulings Hall
Reams, Arthur Arnold...Luthersburg.....395 N. Main St.
Reams, Robert Borden...Luthersburg.....395 N. Main St.
Reed, Frank Elmer.....New Brighton.....382 E. College St.
Renick, Herbert E.....Albion.....599 N. Main St.
Rightmire, Anna Eleanor.Sewickley.....Hulings Hall
Rink, Harold F.....Indiana.....543 N. Main St.
Risher, William Albert...Bellevue.....327 Prospect St.

Roberts, Paul Sherman...Meadville.....523 Walnut St.
Ross, Leo Edward.....Albion.....Σ A E House
Rowbottom, Raymond George .....Avalon.....395 N. Main St.
Schaefer, Mabel Mildred..Beaver Falls.....Hulings Hall
Scourfield, Arthur Clyde. Dawson.....329 Prospect St.
Severson, Frances Marian.Meadville.....460 Walnut St.
Shaeffer, Margaret Cook.Columbiana, O.....Hulings Hall
Shaffer, Lloyd Mark.....Ridgway.....633 William St.
Shouse, Robert John.....Bellevue.....327 Prospect St.
Shrader, Paul Henry.....Jeanette.....451 E. Henry St.
Sides, Jamison Stewart...Black Lick.....550 Baldwin St.
Sigendall, George Oscar..Meadville.....630 N. Main St.
Smith, Charlotte Carolyn.Titusville.....Hulings Hall
Smith, Ruth Esther.....Meadville.....625 Baldwin St.
Sober, Josephine Rosalie.Brackenridge.....Hulings Hall
Spangler, Marion Louise.Bradford.....Hulings Hall
Staples, Edward Daniel...Erie.....383 John St.
Steenken, Daniel William.Hempstead, L. I.....659 William St.
Steltz, Rodney Painter...Myerstown.....616 N. Main St.
Stewart, Juliana Dale....Franklin.....Hulings Hall
Stoolfer, Frances Ariel....Westfield, N. Y.....Hulings Hall
Sutton, Charles Leo.....Altoona.....550 Baldwin St.
Swanson, David Christopher Theodore .....Edinboro.....498 Randolph St.
Taylor, Charles C., Jr...Chautauqua, N. Y.....599 N. Main St.
Taylor, Eleanore.....Chautauqua, N. Y.....Hulings Hall
Thurston, Adelaide F....Meadville.....Box 113
Townsend, Alice Culbertson .....Meadville.....390 Chestnut St.
Travis, Frank.....Pittsburgh.....302 Loomis St.
Trax, Thomas Andrew.... Franklin.....643 Park Ave.
Troup, Harry..... Apollo.....Rose Lane
Turner, Alice.....Freeport.....Hulings Hall
Van Camp, Clarissa.....Girard.....Hulings Hall
Van Scoyoc, Teresa Mildred .....South Fork.....Hulings Hall
Vaughan, Elizabeth.....New Kensington.....Hulings Hall
Veatch, Collins.....Gordonsville, Va.....380 N. Main St.
Veatch, Elsie Kathryn....Gordonsville, Va.....380 N. Main St.

Veith, Edith Elizabeth...Meadville.....1189 S. Market St.
Wangner, Katharine Julia.Hempstead, L. I., N. Y.....Hulings Hall
Ward, Marian Priscilla...Ridgway.....Hulings Hall
Warren, Samuel Enders..Meadville.....1317 Park Ave.
Wasser, Herman Snyder..Fredonia.....395 N. Main St.
Waters, Frank Hall.....Warren.....219 Spring St.
Webb, Margaret.....Meadville.....628 Highland Ave.
Weyand, Paul Reeves....Blairsville.....630 Baldwin St.
White, Elizabeth.....Indiana.....Hulings Hall
Whitehead, Delilah MartinPatton.....Hulings Hall
Whitfield, Mary May.....Cambridge Springs.....Hulings Hall
Winters, Anson Lyle....Fredonia.....395 N. Main St.
Wolz, Charles C., Jr.....Washington, D. C.....633 William St.
Wood, Elgin Stewart....Franklin.....643 Park Ave.
Wright, Leslie Orin.....Jamestown, N. Y.....Cochran Hall
Wright, Sara Luella.....Butler.....Hulings Hall
Wyatt, John Schuyler....Meadville.....779 Cottage St.
Zurfluh, Frank.....Ridgway.....273 Prospect St.

Special

Swartley, Annette.....Meadville.....656 William St.

Summary

	Men	Women	Total
Resident Graduates	3	4	7
Seniors	60	43	103
Juniors	71	33	104
Sophomores	81	60	141
Freshmen	128	81	209
Special	0	1	1
Total	343	222	565

Degrees Conferred

JUNE 15, 1921

Doctor of Laws

Francis Asbury Arter
James Isaac Buchanan

Doctor of Divinity

Cinnett Grant Farr
Charles Thomas Greer

Master of Arts

Lucia De Turk
James Ernest Isherwood

Master of Science

Fred Birch Trace

Bachelor of Arts

Ramona Acosta
Frank Haskell Bacon
Claribel Avis Belknap
Marguerite Elizabeth Blass
Warren Pierce Blodgett
Alice Belle Bollinger
Marjorie Elizabeth Brown
Inez Brumbaugh
Gladys Harriet Brunner
William Joseph Carney
Dorothy Mae Curry
Marjorie Dean
Geo. F. Dunbar
Paul Sumner Dwyer
Frances Hester First
Ida Myrtle Galbreath
Helen Elizabeth Gold
Nancy Catherine Graham
Marlin Wallace Hartman
John Dyer Helmlinger
John Charles McCreary
Marguerite McCune
Webster DeWitt Melcher
Florence Agnes Miller
Helen Rebekah Millhoff
Marian Morrison
Alys O'Neil
Dale B. Painter
Stanley E. Plumb
Ethel Marian Powney
Daniel Sturgeon Robinson
Hazel Kathlyn Robrecht
James Oscar Russell
Frieda Regina Schnell
Ruth Olivia Seaberg
Helen Marguerite Shuster
Madeline Natalia Stanford
Maxwell Slutz Stewart
Raymond Ara Tennies
Dorothy Thurston

Mary Dunlap Hilderbrand
Dorothea Edna Kruse
Ruth T. Lermann
Frederick William McCluer
Margaret Ruth Titus
Wilhelmine Traum
Elizabeth Turner
Anna Jane Walker
Gretchen Simon Wood

Bachelor of Science

Helen Elizabeth Andrews
Joseph Bernard
Earl C. Clark
Margaret Cleveland
Lyle Alton Clough
Ira Kline Davis
Harold Westlake Dickey
Robert Henry Ellsworth
Floyd Wilbur English
E. Lester Fix
Thomas Francis, Jr.
Glade G. Fuller
M. Willard Grant
Harry Funk Grimes
John Frederick Henderson
Fred Friedel Hetner
Sara Margaret Howe
Merrill Brown Iams
Chester McCabe Jelbart
Dorothea Kerr
Alfred James Kinney
Irwin Carl Krueger
Guy Henry Lawhead
Selden L. Leberman
Victor M. Leffingwell
George Alexander McKinley
Harley Jackson Morris
Normal Patrick Nelson
Clyde David Potter
Dorothy Stover Roach
Harold Jesse Ruse
Clifford Weld Skinner
Laurence Victor Smith
Wilbur Collins Thoburn
Glayds Marie Tuck
Dorothy Julia Worster
Paul Alan Zetler

Award of Honors

1921

GRADUATION HONORS

Magna Cum Laude

Alice Belle Bollinger
Frederick William McCluer
Helen Marguerite Shuster
Wilbur Collins Thoburn
Gladys Harriet Brunner
Helen Rebekah Millhoff
Clifford Weld Skinner
Margaret Ruth Titus

Cum Laude

Claribel Avis Belknap
Helen Elizabeth Gold
Paul Sumner Dwyer
Ruth T. Lermann
Ethel Marian Powney

JUNIOR HONORS

First Honors

Glenn Ray Bushyager
Emily Marie Charlton
John Arthur Gibson, Jr.
Coral Frances McMillin
Marion Edward Russell

Second Honors

Jerome Canady Hixson
Paul Whistler Jenkins
Marjorie Eleanore Lillie
Harriette Francis Pitt
Ralph Holder Weaver

SOPHOMORE HONORS

First Honors

Charles Aubrey Bollinger
Helen Jane Bowman
Mortimer Elliott Graham
Dorothy Stevenson Leeper
Julian Lenhart Ross
Harriett P. Titus

Second Honors

George Wilson Chapin
Marcia Mae Horton
Helen McCandless
Dorothy May Schanck
Sarah Steele
Charles Stanley Thoburn
Mary Alicia Tobin

FRESHMAN HONORS

First Honors

Mary Cecelia Dorworth
Edgar Lionel Gasteiger
Martin Luther Gerhardt
Ivah Cass Jennings
Dorothy Laughlin Kurtz
Margaret Rebecca Lighty
Myrtle Sophia Peters
Dala Virginia Scott
Charles Ewig Tefft

Second Honors

Grace Bernice Baker
Chase Richard Gage
George Stanley Hanst
George Edward Happell
Helen Gertrude Robinson
Flora Antoinette Trenouth

Prizes

The Wakefield Oration Prize

Hugh H. Buchanan

The Philo-Franklin Oration Prize

William J. Carney

The Heckel Prizes in Science

First Prize, Fred Birch Trace
Second Prize, Margaret Cleveland

The Ballinger Prizes

Harley Jackson Morris
Wilbur Collins Thoburn

Phi Beta Kappa

ETA CHAPTER OF PENNSYLVANIA

Chartered September 2, 1901

OFFICERS

President

President Fred W. Hixson

Vice President

Joseph W. Miles

Secretary

Professor William A. Elliott

MEMBERS INITIATED IN JUNE, 1921

Honorary

Professor Chester A. Darling
Albion College, '04

Senior Class

Alice Belle Bollinger
Paul Sumner Dwyer
Harley Jackson Morris
Helen Marguerite Shuster
Wilbur Collins Thoburn
Gladys Harriet Brunner
Frederick William McCluer
Helen Rebekah Millhoff
Clifford Weld Skinner
Margaret Ruth Titus

Annual Address, June 14, 1921
Professor Robert Mark Wenley, LL.D.
"Boswell"

ALUMNI ASSOCIATIONS

General Alumni Association

President, Reverend L. W. Sherwin, D.D., '08, Oil City, Pa.
Secretary-Treasurer, Edith Rowley, '05, Meadville, Pa.

New England Association

President, Edgar C. Linn, '86, Brookline, Mass.
Secretary-Treasurer, Edwin P. Booth, '20, 2 Louisburg Sq., Boston, Mass.

New York Association

President, W. P. Sturtevant, '06, 61 Broadway, New York.
Secretary-Treasurer, A. B. Hines, '10, 316 E. 30th St., New York.

Philadelphia Association

President, Wayne Whipple, '77, 6214 Morton St., Philadelphia, Pa.
Secretary-Treasurer, Leo. H. McKay, '16, 64th St. and Malvern Ave., Philadelphia, Pa.

Pittsburgh Association

President, A. W. Robertson, '06, 4842 Ellsworth Ave., Pittsburgh, Pa.
Scretary-Treasurer, Theodore F. Smith, '15, 1805 Commonwealth Bldg., Pittsburgh, Pa.

Cleveland Association

President, William L. Mould, Union Mortgage Co., National City Bldg., Cleveland, O.
Secretary-Treasurer, Ida F. Preston, 1572 Rosewood Ave., Lakewood, O.

Chicago Association

President, Frederick S. Breed, Ph.D., '02, 1410 E. 58th St., Chicago, Ill.
Secretary, Myrta E. Mercill, '02, 1410 E. 58th St., Chicago, Ill.
Treasurer, Charles S. Jewell, '91, 459 Provident Ave., Winnetka, Ill.

The Summer Session

The Summer Session of Allegheny College will be held from Monday, June 26, to Saturday, August 5. Instruction will be given every week day for the six weeks. For each course two term hours credit will be given, which will count toward a degree. For each entrance course one-half unit will be allowed, unless otherwise specified.

The plan of the summer school is to give work that will meet primarily the needs of the three following classes of students: (1) teachers who may desire a better training for their work in the class room, or who are preparing to pass examinations required for the various teachers' certificates; (2) college students who may desire to obtain advanced college credits or to remove conditions, and even high school students desiring to remove entrance conditions for admission to college; (3) any person who may desire to enter the course for the purpose of self-improvement. No requirements are necessary for admission, except that each professor will satisfy himself that the candidate is qualified to be admitted to his course.

Instruction will be given for the most part by the heads of the various departments. The courses will include the languages, the sciences, mathematics, history, psychology, and education.

A bulletin of the summer session detailing the various courses will be published about April 1, and will be sent on application. For information, address the Director,

C. F. ROSS,
Meadville, Pa.

Index

	Page
Admission, Requirements for	33
Adviser System	93
Aid to Students	90
Athletics	99
Board of Trustees	7
Buildings and Grounds	18
Calendar	5
Clubs	94
Committees of the Faculty	15
Courses of Instruction:	
Art	56
Astronomy	56
Bible	57
Biology	58
Chemistry	60
Economics	62
Education	64
English Language	65
English Literature	66
French Language and Literature	68
Geology	70
Greek Language and Literature	71
History	73
Italian Language and Literature	74
Latin Language and Literature	75
Mathematics	76
Philosophy	77
Physics	79
Political Science	80
Public Speaking	81
Spanish Language and Literature	82
Surveying and Graphics	83
Physical Training	98
Degrees	100
Degrees Conferred 1921	119
Expenses	86
Faculty	11
Fees	85
General Purpose	32
Historical Sketch	17
Honors	96
Honors, Award of	121
Hulings Hall	88
John C. Sturevant Memorial Foundation	96
Laboratories and Museum	24
Library	29
Location	17
Phi Beta Kappa	123
Prizes	97-127
Register of Students	102
Requirements for Graduation	49
Scholarships:	
The Ballantyne Scholarship Fund	90
High School Scholarships	91
The Wright Scholarship Fund	91
Summary of Attendance	118
Summer Session	125

UNIVERSITY OF ILLINOIS-URBANA
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